

# SOAP AND CHEMICAL SPECIALIST

APRIL 1959



New containers for "Dutch" cleanser of Purex Corp., feature novel plastic ends.

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POLYVINYL  
ACETATE

SOYA ALKYD

AIR-DRIED  
PHENOLIC

CHLORINATED  
RUBBER

## Formulators — compounders!

For removing  
caustic-  
resistant  
organic  
finishes —

formulate  
solvent-type  
strippers  
with

UREA  
MELAMINE

ALKYD  
PRIMER

GOV'T.-SPEC.  
PRIMER TT-P-636B

# SOLVAY METHYLENE CHLORIDE

The new, difficult-to-remove, caustic-resistant organic finishes can be quickly and thoroughly stripped by specialized formulations containing SOLVAY® Methylene Chloride. SOLVAY Technical Service experts are experienced in developing the highly specialized formulations needed to strip the new tough paint films that are not readily and efficiently attacked by caustic compounds. They will help you in developing formulations for the paint you want to strip.



**SOLVAY PROCESS DIVISION**  
61 Broadway, New York 6, N. Y.

SOLVAY branch offices and dealers are located in major centers from coast to coast.

There are added advantages to solvent-type paint strippers formulated with SOLVAY Methylene Chloride — they are non-flammable and work equally well on aluminum and many other bases that are attacked by caustic.

Mail to SOLVAY for literature, technical aid!

**PLEASE SEND:**

- Chemical Week article—"Brighter Finishes Spotlight New Strippers"
- Fact folder OC-11
- Stripping formulations bulletin 3-558
- See attached letter describing stripper I want to market

Name \_\_\_\_\_

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She looks around, before she buys any perfumed product. Many times, she chooses by fragrance. She never knows that her favorite fragrances often come from Norda good scents.

Every day the skills that have always created Norda quality are being developed more broadly, and deepened, by continuing research into better ways to do things for you at Norda.

Norda makes good scents



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For private brand resale  
buyers of waxes  
and kindred products

## ...Your Quality Guide

### Beauty and Durability

Initial appearance is important, but for a waxed surface to remain beautiful, it must be durable. Durability depends not only on resistance to abrasion of traffic, but even more so on resistance to discoloring marks. Durability should be measured by how long the waxed surface maintains a nice appearance before complete removal and re-waxing is required.

### Anti-Slip

Anti-slip, or reasonable safety underfoot, does not mean that the qualities of beauty and protection need be sacrificed. The proper balance—a wax film which is not excessively slippery, yet which is not tacky and does not collect dirt readily—gives the performance that answers the foremost original reason for use of a floor wax...beauty and protection.

### Water Resistance

Frequent damp mopping or wet traffic can make water resistance very important. Over-doing this quality when no problem exists out of the ordinary, simply increases the difficulty of complete removal or applying multiple coats. Removability must be considered as important as water-resistance under most normal conditions.

### Other HIGHEST QUALITY products of CANDY & COMPANY, Inc.

#### CANDI-COAT 1000, WATER RESIN EMULSION

As a floor coating for use under specific conditions of continued maintenance on certain types of floors this water resin emulsion has none of the faults associated with coatings of this type. It is the finest product in its class produced up to this time.

Bright Beauty WAX REMOVER & all-purpose SURFACE CLEANER For removal of water-emulsion waxes from any floor without harmful effects. It is the perfect maintenance program wax remover and all-purpose surface cleaner. Pleasant odor, crystal clear color and thorough cleaning action with all types of equipment. Unaffected by hard freezing. Furnished ready for resale or in concentrated form for local packaging...nothing but water to buy or mix in.

#### Bright Beauty CREAM FURNITURE POLISH

A cream furniture polish that spreads easily, polishes without excessive effort to a deep impressive lustre. Permits repeated repolishing with a dry cloth, thus saving many re-applications. A very economical polish of the very highest quality.

#### Bright Beauty PASTE WAX

Properly blended and refined from excellent quality solids and solvents that produce the best drying time and evaporation. Easy to handle, having "creamy" consistency and stability that lasts throughout storage and usage life.

#### Bright Beauty LIQUID (spirit) PREPARED WAXES

A complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each acts as a "dry

#### WATER EMULSION WAXES

Each of Candy's floor waxes are all-around top quality for certain traffic conditions. They impart the finest protection and beauty to floors for which best suited.

#### CANDY'S SUPREME (standard)

#### BRIGHT BEAUTY®

#### CANDY'S SUPREME Special WR

#### SUPER CAND-DOX®

#### CAND-DOX® # CS

#### CANDI-WAX #6000

All Candy's products are available for private brand resale and are sold only through distributors except for experimental accounts in Chicago essential to research.

### Solid Content

The percentage of solid content is not nearly as important as the quality of the solids. Good quality indicates 12% of solids as the answer for most well planned maintenance programs. Two applications of 12% gives better results than one of 18%. "Washed out" floors and other special problems maintain better when more concentrated waxes are used. Over-waxing and resultant greater difficulty in removal for periodic maintenance may do more harm than good.

### Carnauba Wax

The most important features of a good wax...all-around quality of performance...are built around Carnauba Wax. When refined and compounded with other additives and scientifically controlled in manufacture, Carnauba alone imparts the beauty and protection that makes the use of floor waxes both profitable and possible. Make-shift manufacture or over-emphasis on any one given wax feature should be avoided and proper care taken to provide for most satisfactory performance.

cleaner" to keep surfaces waxed protected with a superb coating necessary for many applications such as wood and certain other types of floors; for bars, wallpaper, etc.

#### Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH

As a glass cleaner (pink color) it applies evenly with little effort, wipes off easily with negligible "powdering" and produces an undeniable "feel" of cleanliness to glass. As a cleaner of silver, it polishes to a high lustre without abrasion and can even correct the abuses of scratchy "quick-polish" inferior products.

#### Bright Beauty DANCE FLOOR WAX

Does not "ball-up" and gather dirt that impregnates floors with hard spots difficult to remove...free from dusty effects. Its protective quality adds more "floor-years" to expensive ballroom floors.

#### Bright Beauty Heavy Duty PASTE CLEANER

Cleans and scourcs more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive qualities, it frees almost every surface from all foreign matter.

#### CONTAINER SILK SCREEN LABELING

Now you can have dramatic, colorful labeling of your private brand name on all 55, 35, 30, 20 & 15 gal. drums and 5 gal. pails. This added service is accomplished right in our plant...your inspection invited...or write for details.

*Candy & Company, Inc.*  
EST. 1891

Wax Specialists for over 65 years

2515 W. 35th ST., CHICAGO 32

*Cover photo: First plastic ends on cleanser cans have been adopted for new "Dutch" cleanser of Purex Corp., South Gate, Calif. Yellow plastic bottoms and tops, with pre-punched holes, contrast with turquoise-striped labels of modern design. Two sizes: 14 and 22 ounces. Reformulated product now comes perfumed with a pine fragrance.*



SINCE 1934

## IN THIS ISSUE

FRANK J. REILLY  
*Editor*

CHARLOTTE HAAS  
*Associate Editor*

EDWARD BLOCH  
*News Editor*

THOMAS MORGAN  
*Advertising Manager*

ALVIN PLOFSKY  
*Production Manager*

ESFERA FAY  
*Circulation Manager*

*Published monthly by*  
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IRA P. MAC NAIR  
*President*

GRANT A. DORLAND  
*Vice-President and Treasurer*

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# NEW from General Mills...

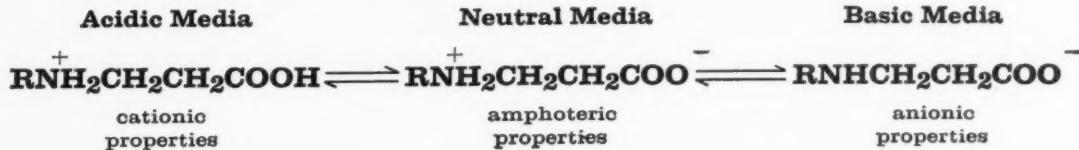
**DERIPHATS®**—the amphoteric surfactants  
that **clean, condition and protect**—  
at the same time!



In the photograph above, enlarged 40 diameters, DERIPHATS are working as a shampoo ingredient. Their amphoteric nature—both cationic and anionic function—gives shampoo formulations controlled substan-

tivity and detergency. Yet this is only one of countless applications where DERIPHATS, with their unique behavior, can offer cosmetic and industrial detergent formulators a more *versatile* cleaning agent.

Here's what DERIPHAT **amphotерism** is...



## Here's what Deriphats are...

DERIPHATS are N-substituted fatty amino acid derivatives. These fatty-based amphoteric surfactants contain both cationic and anionic functionality. This dual nature provides a single surfactant operative in both acidic and alkaline media. DERIPHATS are compatible with cationic, nonionic and anionic surfactants over a broad range. They produce abundant, lasting foam, are effective wetting agents, and retain their surface activity in concentrated alkalies and

brines. The DERIPHATS exhibit excellent corrosion-inhibiting properties and detergency.

These and other unique properties make DERIPHATS well worth considering in your product and process development program. They are now, for the first time, available in commercial quantity—you can be among the first to use DERIPHATS to improve your formulations. Like all our chemicals, DERIPHATS never vary in quality—order after order.

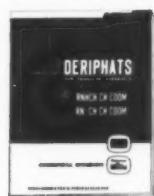
### Which DERIPHAT property is most important to you?

- |   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Compatibility with cationics and anionics | <input checked="" type="checkbox"/> Excellent wetting                       | <input checked="" type="checkbox"/> Anti-static agent           |
| <input checked="" type="checkbox"/> Excellent detergency                      | <input checked="" type="checkbox"/> Substantively adsorbed on skin and hair | <input checked="" type="checkbox"/> Hard-water stability        |
| <input checked="" type="checkbox"/> High foaming                              | <input checked="" type="checkbox"/> Corrosion-inhibition                    | <input checked="" type="checkbox"/> Good hydrotropic properties |

### Specifications: DERIPHATS

CHEMICAL PROPERTIES			PHYSICAL PROPERTIES				SPECIFICATIONS		
Product	general chemical structure (a)	chemical description	approx. equivalent weight	physical form	viscosity	specific gravity	per cent active	pH (b)	color, 10% active (c)
170C	RNHCH <sub>2</sub> CH <sub>2</sub> COOM	N-lauryl $\beta$ -amino-propionic acid	251	viscous liquid	2500-3500 cps	0.98	50% min.	6-7	min. 80% T
160C	RN(CH <sub>2</sub> CH <sub>2</sub> COOM) <sub>2</sub>	partial sodium salt of N-lauryl $\beta$ -iminodipropionate	174	liquid	30-50 cps	1.04	30% min.	7-8	min. 80% T
154	RN(CH <sub>2</sub> CH <sub>2</sub> COONa) <sub>2</sub>	disodium N-tallow $\beta$ -iminodipropionate	232	flake	—	—	96% min.	11-13	min. 20% T
151	RNHCH <sub>2</sub> CH <sub>2</sub> COONa	sodium N-coco $\beta$ -aminopropionate	276	flake	—	—	96% min.	11-13	min. 40% T

(a) M=sodium and/or hydrogen. (b) glass electrode, 1% active in water. (c) Coleman Jr. Spectrophotometer, % Transmission at 425 millimicrons.



**WORTH SENDING FOR!** New booklet gives you all the facts about this promising chemical. For a copy, address—Chemical Division, General Mills, Department 222, Kankakee, Illinois.



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Desalted sodium alkyl aryl sulfonate

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High activity foam stabilizers and  
detergency boosters

STEPANOL B-153  
Ammonium alkyl phenoxy  
polyoxyethylene sulfate

STEPAN LD-55A, RB-98, NINEX 26  
Formulated dishwashing detergents for  
retail and industrial use

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Nonyl phenoxy polyoxyethylene ethanol

#### SYNTHETIC FLOOR CLEANERS

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Heavy duty coconut alkylolamides for  
viscous, nonrusting cleaners

NINEX 303, STEPANATE X & T  
Sodium xyleno and toluene sulfonate  
coupling agents

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facilities to assist you in every way possible toward developing  
the product most suitable to your needs.  
Our technical staff will be pleased to consult with you on new products  
as well as new applications of our present products.

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S-4

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NINOL 128 EXTRA  
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NINOL CB60, NINOL ESO  
Opacifiers for liquid cream shampoos

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Here's a real heavy-duty aluminum alloy and stainless steel dispenser designed for waterless hand cleaners and protective creams. Holds factory-filled disposable slip cover cans of any depth. Self-priming, self-lubricating suction pump is push-button operated. No gears or levers to get out of order.



MODEL #310-4: 4 1/4" Outside Diameter Cans  
MODEL #310-5: 5 1/8" Outside Diameter Cans  
MODEL #310-6: 6" Outside Diameter Cans



MODEL #167: Adjustable Proportion

This precision-built, manually-controlled proportioner attaches easily to any faucet. Draws liquid detergent thru a polyvinyl tube, meters it adjustably and gives you push-button selection of proportioned mixture or clear water. Brass constructed with chromium finish.



MODEL #181: Fixed Proportion  
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A stainless steel constructed automatic liquid controller suitable for a variety of products. Single push-button operation. Attaches to faucet, draws liquid concentrate from any size container, dispenses it accurately in any desired proportion. Resets automatically to clear water.



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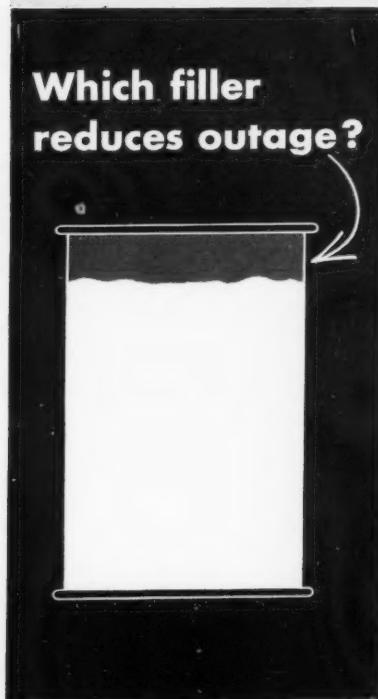
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**Which filler  
reduces outage?**



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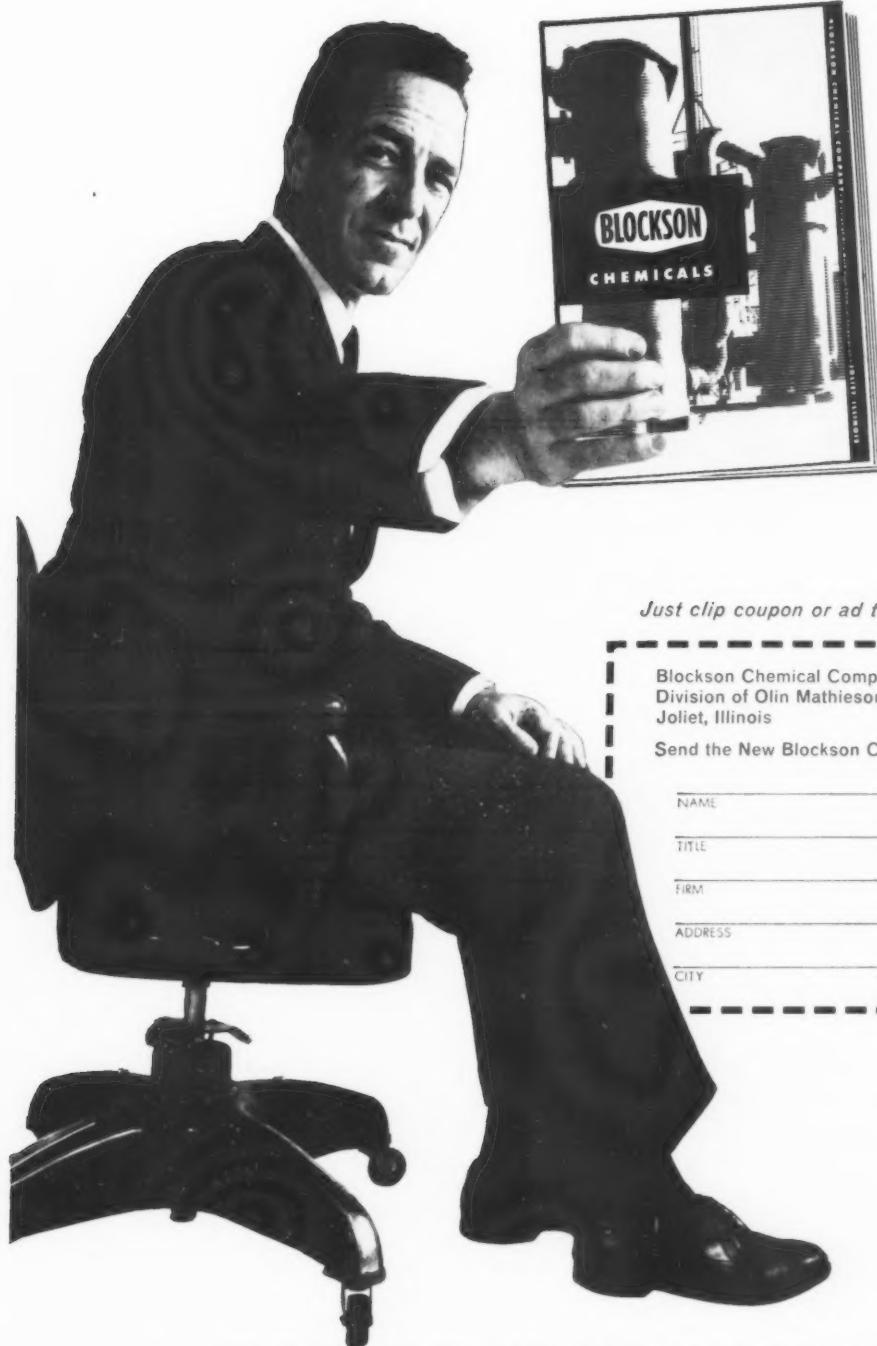
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## Suds, Shines and SELLS

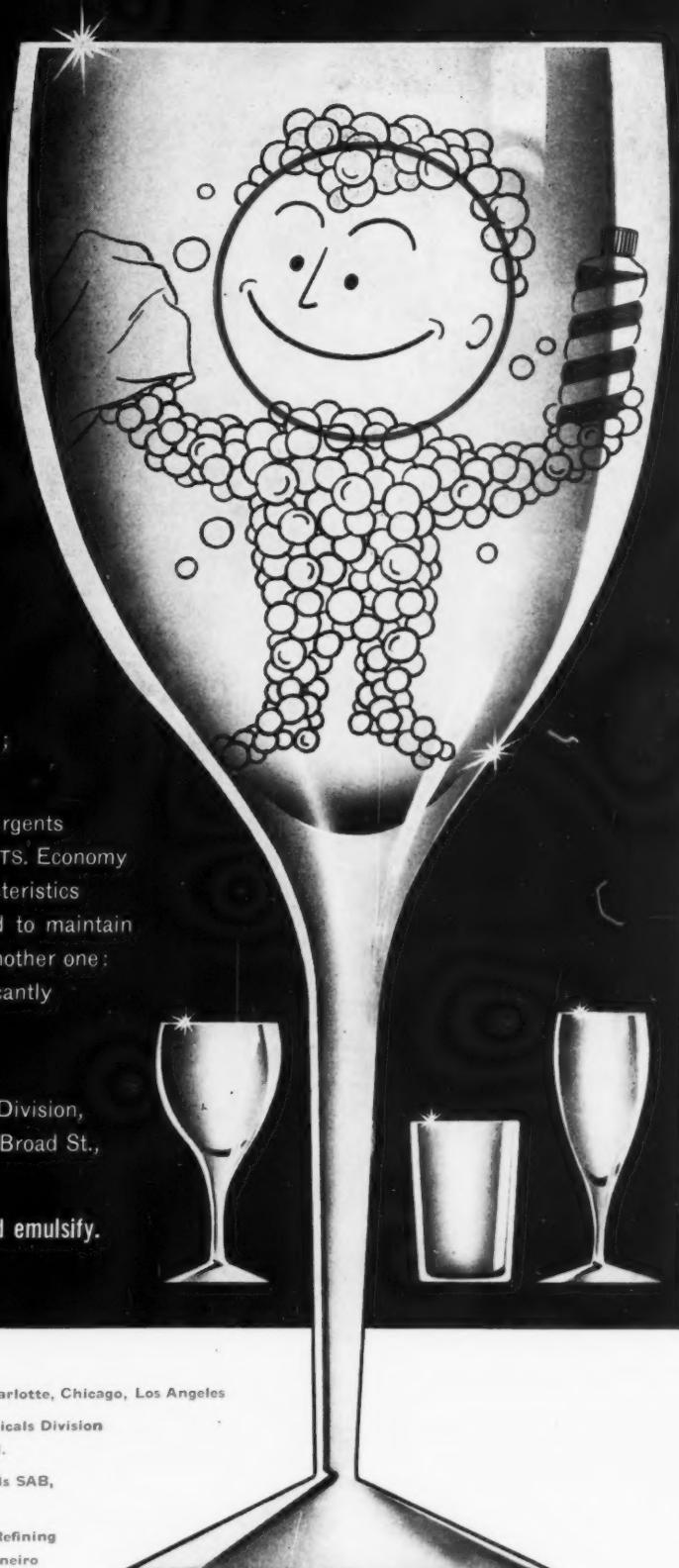
The growing preference for liquid detergent formulations is showing up in the sales picture. Last year there was a phenomenal industry-wide increase in these sales.

And no wonder. Liquid detergent formulations offer real economy; instant solubility in any water; a pleasing fragrance; sneeze-free washing; dishes that dry shining bright; no sink scum to scrub away.

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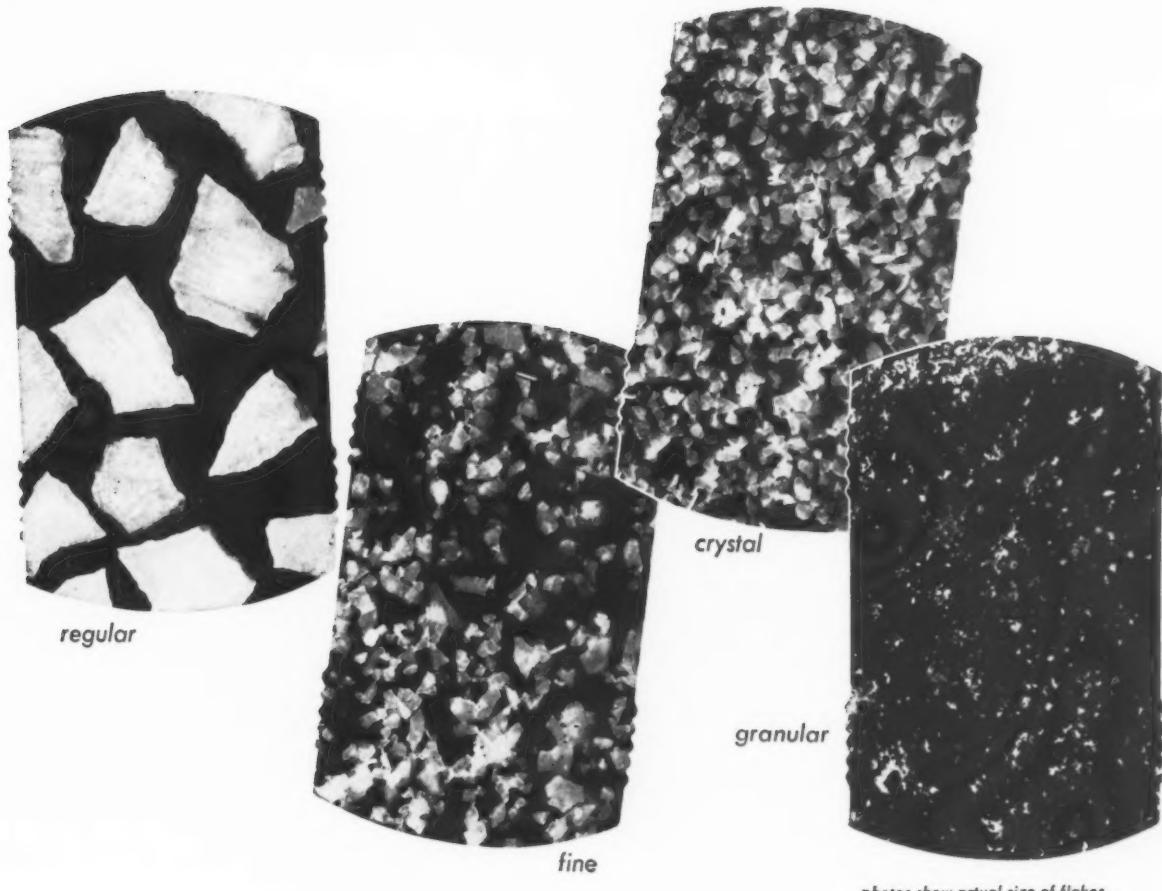
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**HOOKER CHEMICAL CORPORATION**

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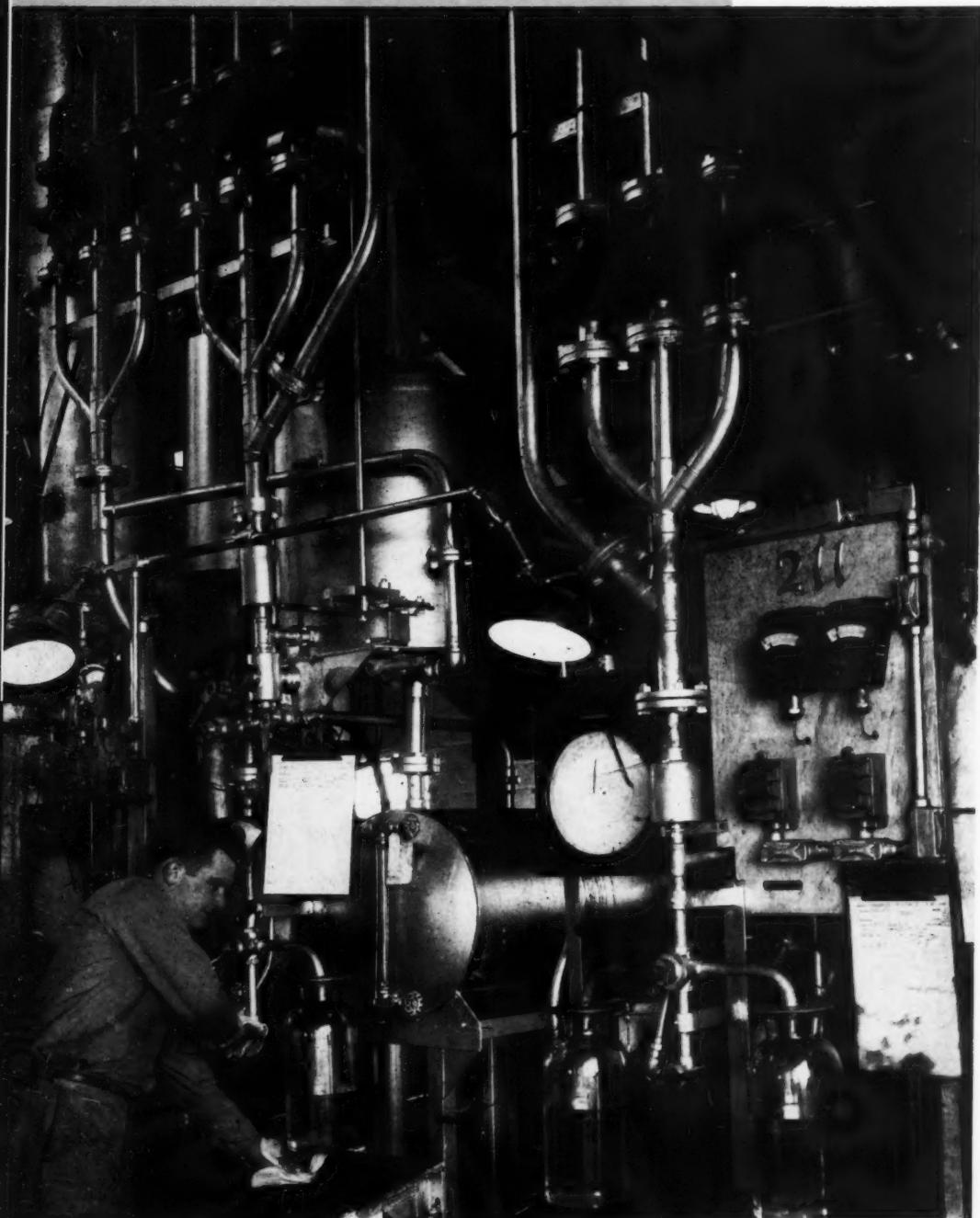
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Westvaco's broad range of product and packaging . . . plus extra service benefits such as color-coded bags . . . are the result of experienced planning to meet the needs of all users. We're always ready to modify existing lines to accommodate unusual requirements.

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*The standard grade Maypon  
of unsurpassed mildness for producing...*

**Cream Shampoos  
Cold Wave Solutions  
Liquid Bath Preparations  
Cosmetic Creams**

**MAYPON  
4 CT**

*An advanced development of Maypon 4 C  
recommended for...*

**Liquid Shampoos  
Pressurized Shampoos**

**MAYPON  
DP**

*A companion product of Maypon 4 C and  
Maypon 4 CT for the competitive market  
recommended for...*

**Shampoo Concentrates  
Liquid Bath Preparations  
Liquid Shampoos**

*Maypon 4 C, 4 CT and DP all satisfy the Draize-Woodward  
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MAYWOOD, NEW JERSEY**

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we can assist you in adjusting  
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AROMATICS DIVISION

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# After Closing

## Sun Sells Warwick Wax Co.

THE acquisition early this month of Warwick Wax Co., New York, wholly-owned subsidiary of

to be used as fortifiers and extenders of various synthetic resins; acquisition or construction of re-



Maurycy Bloch



John J. Fish

Sun Chemical Corp., by the newly formed Western Petrochemical Corp. in a straight cash transaction was announced recently by Maurycy Bloch, president of Western Petrochemical and vice-president and general manager for the past 15 years of Warwick.

Warwick, with sales in 1958 reported at about \$3 million, has refineries in Chanute and Coffeyville, Kans., and Gramercy, La., and maintains 33 stock and service centers in the United States and Canada.

The company now operates as a division of Western and is embarking on a projected long-range expansion program said to involve expenditures of about \$1 million. The first phase of the program will be the installation of a \$300,000 propane de-asphaltizing unit at the Chanute refinery as well as expansion and modernization of the refinery and laboratory. Other points of the program include diversification of production at Chanute with the addition of polyhydrocarbons to the product lines

finery facilities to produce by 1961 additional petrowaxes for the packaging industry; aiding the company's foreign distributors to become manufacturers of specialty waxes in order to increase international business; and expansion of technical services.

Mr. Bloch, in announcing Western Petrochemical's board of directors, stated that it would be "a 'working' board with a balance of knowledge and talents in chemical science, finance, business administration, law, sales and production." The directors include William W. Sellew as chairman, partner in G. H. Walker & Co., New York investment bankers who negotiated the agreement for the acquisition; Robert E. Cohn, partner, Pelgrift, Dodd, Blumenfeld and Nair, Hartford, Conn., law firm; John J. Fish, vice-president-research and development, Western Petrochemical Corp., New York; Herman Mark, director, Institute of Polymer Research, Polytechnic Institute of Brooklyn (N.Y.); Howard Phipps, Jr., vice-presi-

dent, Bessemer Securities Corp., New York; Richard Steadman, G. H. Walker & Co., New York; Peter Temple, a director, Harbridge House, Inc., Boston, management consultants; and Mr. Bloch, president of Western Petrochemical who continues as chief executive officer of Warwick.

### White King Names Two

White King Soap Co., Los Angeles, has appointed two sales representatives to its southwest field force, Bill Woods, southwest district divisional manager, announced last month.

Don Howell represents the company in California's San Bernardino county. He was formerly with Arden Farms Co., Los Angeles. Previously with Stokely-Van Camp Foods, Inc., Los Angeles, Ken Trotter covers the San Gabriel Valley area north to Bishop, Calif., for White King.

### Warns on Canada Crooks

Arthur Wels, president of the Twi-Laq Chemical Co., Brooklyn manufacturers of floor waxes and polishes, has issued a warning to American chemical specialties manufacturers against a group of crooks operating at Quebec, Canada. An attempt to victimize his firm led to unmasking the scheme by Mr. Wels. The operation starts with a phone call from Quebec ordering a sizeable quantity of merchandise for shipment to the "Safeway Chain Stores of Canada" with instructions to ship immediately by air express via Trans-Canada Airlines. In this case the order was for 10 cases of floor wax in quarts. Larger orders will follow if the merchandise is satisfactory.

Instructions to the shipper are that he must pre-pay express charges. Import duties are to be paid by money-order in response to a later phone call from Quebec, the money to be sent to a supposed custom broker. The goods are to be consigned to Safeway Chain Stores at Dorval Airport in Quebec.

(The actual name of the Canadian division of the well-known American Safeway chain is Canadian Safeway, Ltd.)

Upon receipt of the phone order, Mr. Wels checked with the American Safeway company and also with the Canadian Consulate in New York. He found from the latter that the operators of the scheme were crooks and had apparently victimized a number of American firms in the chemical specialty business. A check with Trans-Canada Airlines revealed that they had received numerous shipments consigned to Safeway Chain Stores at Quebec which had aroused their suspicions. Mr. Wels indicated that because of peculiarities in the Canadian and American laws, the operators of the scheme were fairly safe from criminal prosecution.

—★—

#### **Snell Services Described**

The scope of activities and services of the wax section of Foster D. Snell, Inc., New York, are described in a recently issued four-page folder. Services in the fields of household and industrial maintenance floor waxes; shoe, furniture, auto, and leather polishes; coatings for papers and textiles; upgrading, bleaching, oxidation, and synthesis; as well as engineering, toxicological, and marketing services to the wax industry, are fully described in the folder. Complete information may be obtained from the firm, 29 West 15th St., New York 11.

—★—

#### **New Onyx Catalog**

A new 24-page catalog of surface active agents is now available from Onyx Oil & Chemical Co., Jersey City, N. J. Each product listed in the booklet is described by trade name, active ingredient, per cent active, physical state, general use, specific applications, and properties. These products are divided into three general classes: anionic, cationic, and non-ionic. There is a two page section which explains the chemistry of each of these groups.

## **Clay, Not Carbon, Soil Culprit**

**C**LAY rather than carbon may be the main factor in soil bound tenaciously on cotton, according to William C. Powe, Whirlpool Corp., St. Joseph, Mich. Speaking before the Division of Cellulose Chemistry at the American Chemical Society's 135th national meeting in Boston, April 5-10, Mr. Powe reported on the causes of gradual discoloration in white cotton. This graying phenomenon is the result of unremoved and redeposited soil. Electron micrographs were taken of natural soil *in situ* on cotton fibers to determine the identity and particle size range of particulate soil unremovable by normal cleaning procedures. These electron micrographs suggest, according to Mr. Powe, that clay minerals are the major particulate material causing soil build-up on fibres. Clay particles occur as thin flakes having a large surface in proportion to their weight which enables them to stick tightly to the cotton.

Most detergency evaluations have concentrated on determining ability to remove carbonaceous material. Mr. Powe's findings may throw doubt on much detergent evaluation work which has been carried out with carbon black as a model soil. Clay differs greatly from carbon black, both physically and chemically.

A new "living" insecticide, based on viable spores was described in a paper by Robert Fisher of Bioferm Corp., Wasco, Calif., and Lawrence Rosner of Rosner-Hixon Laboratories, Chicago. "Thuricide" is nontoxic to man, animals, and plants, the authors told the Division of Agricultural and Food Chemistry. The material is based on the spores of *Bacillus thuringiensis* Berliner.

Toxicological studies on ronnel were reported by D. D. McColister, F. Oyen, and V. K. Rowe, Dow Chemical Co., Midland, Mich. Ronnel is the common name assigned to the chemical known as

"Trolene" systemic insecticide for cattle grub control and as "Korlan" for control of flies in barns and other premises. The compound is reported "comparatively low in toxicity to warm-blooded animals and safe for use as recommended".

Analytical methods for determination of various pesticidal materials were presented in a number of papers. G. L. Mack, New York State Agricultural Experiment Station, Geneva, N. Y., discussed "The Stability of Malathion in Small Package Formulations".

—★—

#### **Penick Purchases Property**

S. B. Penick & Co., New York, has purchased the property at 735 West Division St., Chicago 10, which has been its headquarters for many years and has located the midwest sales activities of its NYQ Chemical division there. W. E. Jennings and O. J. Hance, both long associated with the company, have been appointed sales representatives of the division. Ralph A. Olson, vice-president — midwest activities, continues in that position. The Chicago telephone number for the division has been changed from Financial 6-2611 to Mohawk 4-5651.

—★—

#### **"Ride Free" Deal Extended**

The "Buy Three-Ride Free" promotion of B. T. Babbitt, Inc., New York, and co-sponsored by the New York City Transit Authority was extended to March 31, E. Vincent Curtayne, authority member, announced recently. The program, which gave one free subway or bus ride for three coupons from any of five Babbitt products, was to have ended Jan. 1 after six months of operation.

Since its initiation last July, the promotion has resulted in the redemption of 550,901 coupons for 183,643 free rides, Mr. Curtayne reported. For each coupon redeemed the authority collects five cents from Babbitt.

### **Redram Appoints Two**

One of the newest entries in the aerosol filling field, Redram Chemical Co., 755 Utica Ave.,



**Isidore Bronfein**

Brooklyn, recently added two technical men to its staff. Isidore Bronfein has been named chief chemist of the company's laboratory to work in aerosol research and quality control. Most recently with B. H. Krueger, Inc., Brooklyn, Mr. Bronfein has had over 20 years experience in the perfume and cosmetic formulation field.

Thomas J. Benichasa has been appointed chief engineer. He had been associated with Technical Color and Chemical Works, Inc., Mount Vernon, N. Y., for the past three years as chief engineer.

Redram, which began operations in February, operates a single filling line supplied by Mojonnier Associates Division, Karridge-Pak Machine Co., Franklin Park, Ill.

**Thomas J. Benichasa**



The line, which features versatility, is equipped to do pressure filling, cold filling or nitrogen gassing. The addition of nitrogen gassing and pressure testing equipment to the Redram line permits the firm to package and develop many nitrogen propelled products.

Jerry Marder is president of Redram, and Sam Alessi, secretary. Before founding Redram, Mr. Marder was sales manager of Trio Chemical Works, Inc., Brooklyn.

### **Fairfield Pesticide Folder**

A new six-page folder from Fairfield Chemicals, a division of Food Machinery & Chemical Corp., New York, lists formulations aimed at increasing effectiveness of household, garden, and truck crop insecticides against resistant insects. Titled "House & Garden Sprays and Dusts," the booklet was prepared especially for insecticide formulators and packagers. Suggested formulations for dual purpose home and garden sprays, horticultural sprays, fungicide additives, emulsifiable garden sprays and concentrates, and garden and truck crop dusts are contained in the folder. Also included are model front and back package labels with accepted wordage and directions for use.

Copies of the folder are available from the company, 411 Lexington Ave., New York 17.

### **Weber Joins Welch, Holme**

Robert Owen Weber has joined Welch, Holme & Clark Co., New York, as sales manager. The company is a sales representative for firms in the oil, tallow, grease, and chemical industries. Previously Mr. Weber was a salesman for the Shortening Corp. of America, Jersey City, N. J.

Also announced was the appointment of Eugene V. Dupuis in charge of sales for detergents, silicates, phosphates, and alkalies in the New York, New Jersey, and Connecticut areas. Mr. Dupuis has been with the company for the past 10 years.

### **New Specialties Firm**

A new chemical specialties firm, Lora, Inc., has been established in Chicago with Emery D.



**Emery D. Robert**

Robert as president. Previously known as La Bora, Inc., the company is located at 2666 N. Clark St., Chicago 14. Dr. Robert was formerly a consultant and later advisor to La Bora and prior to that was director of research for Lady Esther Co., Chicago.

The company is currently marketing five new products, three in the "Dogette" treatment line for the veterinary field, another called "Foot Pal" as the first entry in the firm's cosmetic line, and "Kloze Fresh," said to be an effective garment deodorant.

### **Stevens to Nopco**

Elbridge S. Stevens has joined the industrial development laboratory staff of Nopco Chemical

**Elbridge S. Stevens**



Co., Newark, N.J., W. R. Christian, laboratory director, announced last month. In his new post Mr. Stevens works on various phases of surface active chemistry.

Most recently with Bon Ami Co., New York, as director of research, Mr. Stevens also has been associated with Colgate-Palmolive Co., New York.

—★—

#### Colton Buys Hope Machine

The acquisition of Hope Machine Co., Philadelphia, by Arthur Colton Co., Detroit, was announced last month by K. B. Hollidge, executive vice-president of Colton. In his announcement, Mr. Hollidge noted that the purchase would enable Colton to offer for the first time a complete line of filling machines for packaging processes in the chemical, pharmaceutical, paint, building, food and dairy industries. Hope's line includes piston-type filling machines for liquid, viscous, and semi-solid products which complement the current Colton line of piston fillers. The Detroit firm now markets "Colton-Alpha" machines for use on all phases of aerosol lines except that of filling. Hope equipment will enable Colton to provide a wide range of machinery for aerosol loading according to Mr. Hollidge.

Under the acquisition Colton has purchased all Hope inventory stocks and will service all Hope machines now in the field. Hope machines will be marketed under the name "Colton-Hope" and will be engineered and manufactured in Colton's Michigan plant.

—★—

#### McKee Joins A-D-M

Arthur W. McKee has joined Archer-Daniels-Midland Co., Minneapolis, as a sales representative for commodity oils in the New York sales office, Paul McClay, assistant vice-president and New York regional sales manager, announced last month. Previously Mr. McKee was a research assistant at the University of New Hampshire, Durham.

#### DCAT Elects Miller

Leon W. Miller, director of chemical sales for the plastics and coal chemicals division of Allied



Leon W. Miller

Chemical Corp., New York, has been elected a director of the New York Board of Trade. Mr. Miller was on the executive committee of the Drug, Chemical & Allied Trades section of the Board for two years and is now chairman of the section's membership committee. He has been with Allied Chemical for 43 years.

—★—

#### McKesson, Barada Merge

McKesson & Robbins, Inc., New York, has entered into an agreement to acquire all the outstanding stock of Barada & Page, Inc., Kansas City, Mo., in exchange for McKesson & Robbins stock, it was announced jointly last month by F. Dean Hildebrandt, vice-president in charge of McKesson's chemical department, and Walter M. Betts, president of Barada. After the transaction is completed, Barada & Page will continue as part of the McKesson & Robbins organization.

Barada & Page was established about 50 years ago and is a major distributor of heavy industrial chemicals in the south central and southwest. The company operates branch warehouses in major cities throughout those areas.

The chemical department of McKesson & Robbins distributes over 600 heavy and fine chemicals

and feed supplements, manufactured by more than 60 chemical companies. The acquisition expands its nation-wide chemical distribution services to 11 district offices, 43 branch sales offices, 70 chemical warehouses, and 15 bulk packing stations.

—★—

#### FMC Appoints Three

Three sales appointments for Food Machinery and Chemical Corp., New York, were announced last month by R. C. Tower, manager of sales for the Westvaco Mineral Products division.

Philip K. Mooney has been named New York district sales manager; Richard W. Carr has become Houston district sales manager, replacing Mr. Mooney; and Richard R. Pogram has been named sales manager of barium and magnesia sales.

—★—

#### New Chemicals Firm

A new firm, Solar Nitrogen Chemicals, Inc., was recently established in Cleveland by Standard Oil Co. (Ohio) and Atlas Powder Co., Wilmington, Del., for the manufacture and sale of industrial and agricultural chemicals. The new firm will acquire all Sohio's ammonia and related petrochemical facilities in Lima, O.

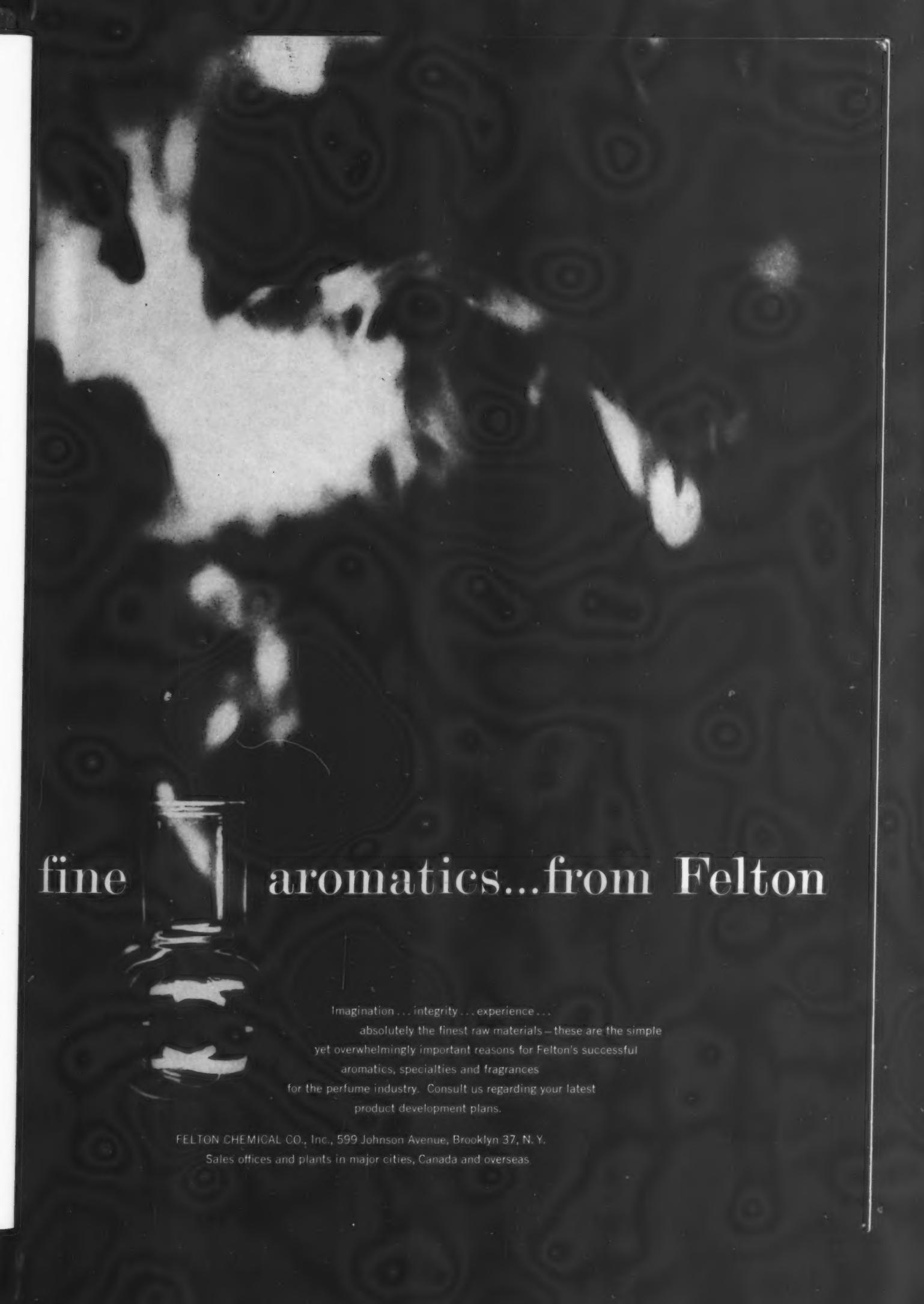
—★—

#### Rutgers Perfumery Course

A two week residence course in perfumery and essential oils will be given by Rutgers University, July 6-17. The course will be given at the New Brunswick, N. J. campus. It is designed for chemists and perfumers who cannot attend regular semester classes. Lectures will be given from 9 a. m. to noon, with laboratory sessions from 1:30 p. m. to 4 p. m.

Steffen Arctander, perfumer at Colgate-Palmolive Co. in Jersey City, N. J., will be instructor for the course. He has taught previous classes in perfumery at Rutgers.

Complete information about the course is available from the University Extension Office, Rutgers-The State University, 601 Broad St., Newark 2.



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Liquid 50%, Regular and  
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**CAUSTIC POTASH:**

45% and 50% Liquid;  
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At our recently modernized and expanded plant, Westvaco Caustic is produced in brand new cell rooms controlled by the most up-to-date automatic monitoring devices. The finished product is stored and handled in lined tanks and nickel pipes and polish-filtered just prior to shipment to deliver high-purity caustic suited to your processing needs.

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VACUUM SULFONATION

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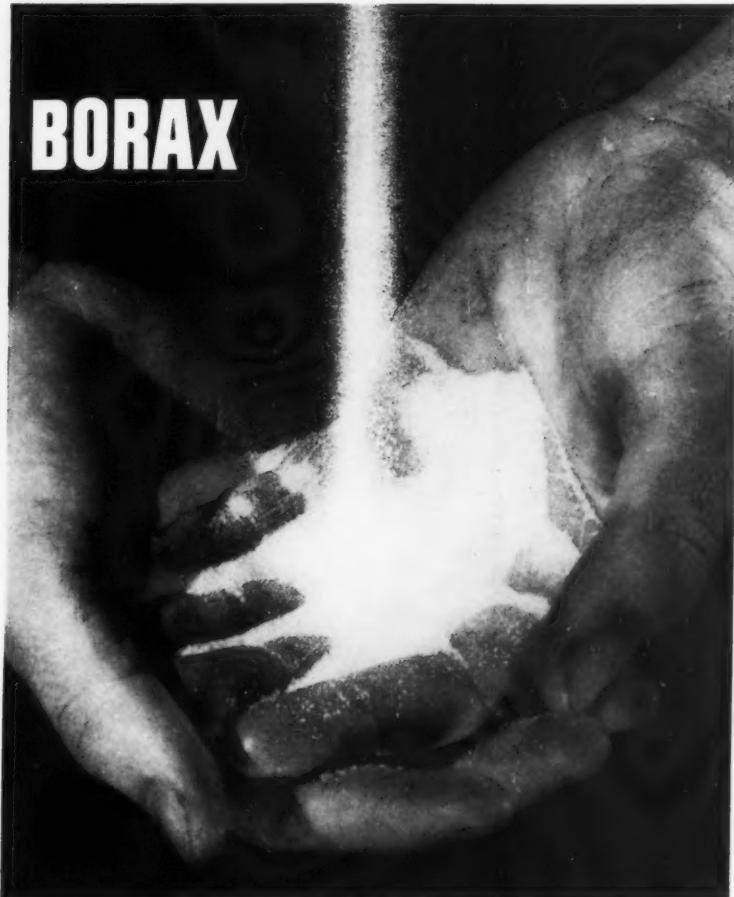


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In addition, you enjoy the security of dealing with a well-established, experienced supplier.

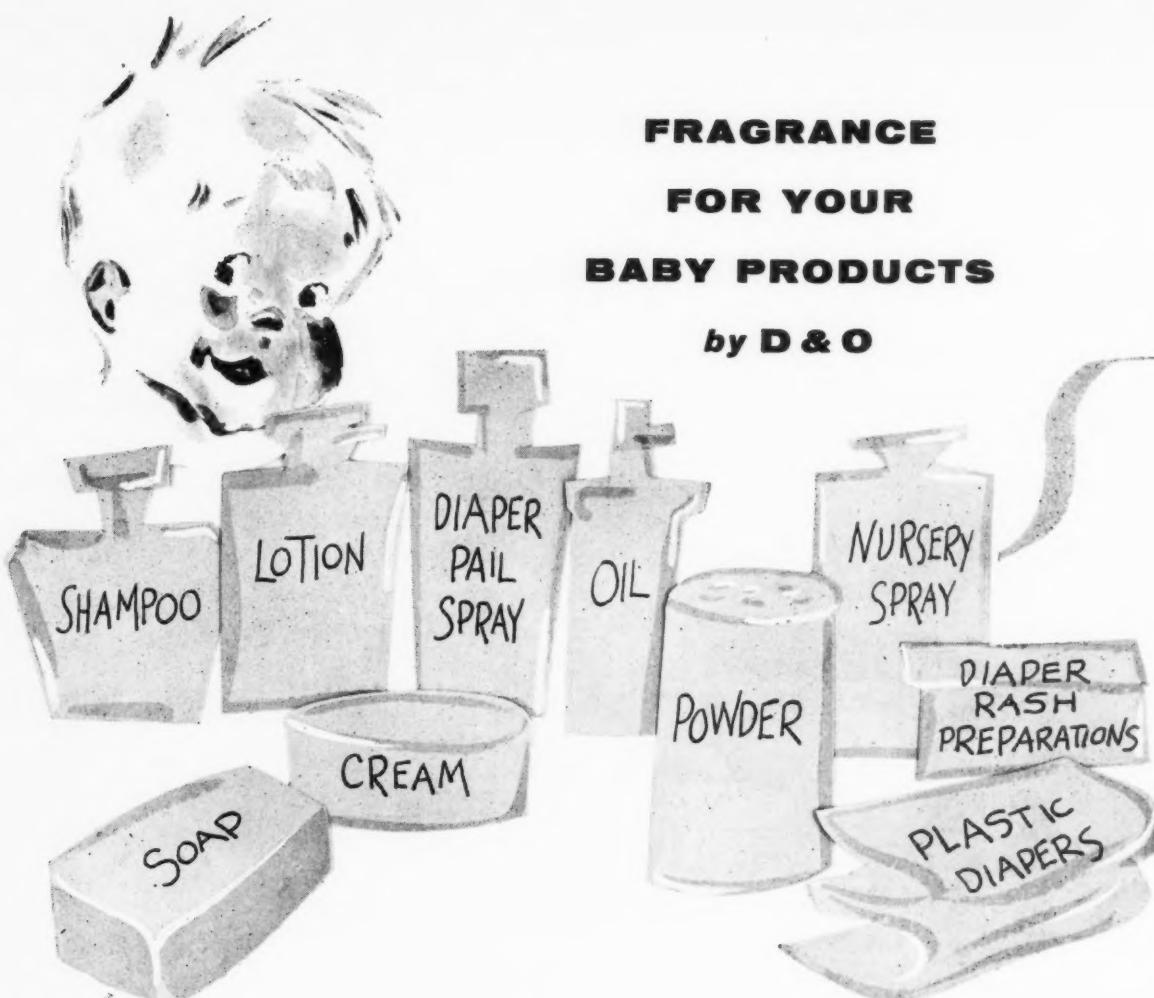
With 14 physical forms available . . . the longest line of alkyl aryl sulfonates . . . you're sure to find one or more to suit your specific requirements. Since NACCONOL costs you no more, why not start using it right now? We'll gladly send generous samples and quote on a trial order.

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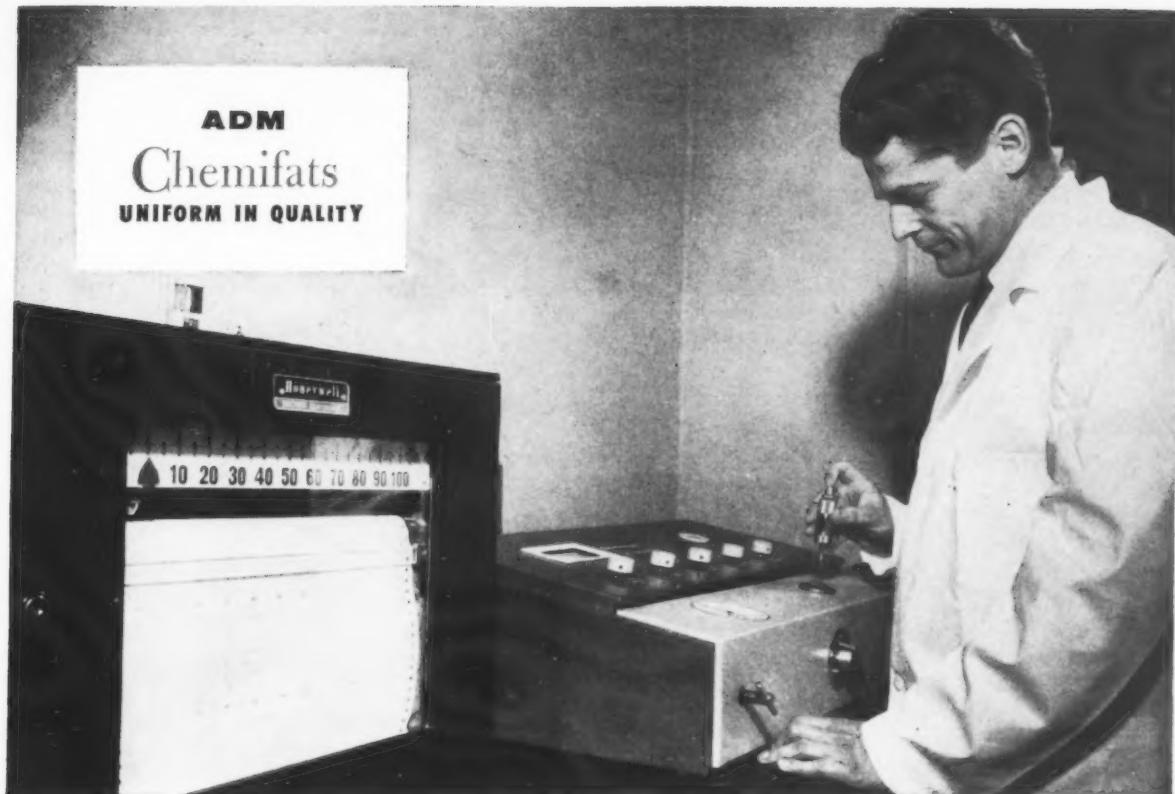
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The gas chromatograph shown above is another reason why ADM can always supply fatty chemicals of uniform high quality. This remarkable instrument does an accurate analysis of a fatty acid, for example, in from a few minutes to an hour and a half. An analysis of the same accuracy by older methods would take weeks or months—if it could be done at all.

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**NEROFLOR SAVON** "Savon" possesses the same merits, stable in soaps, and recommended for low priced purposes.

**MUGOFLORE** A new chemical which is destined to become one of the most important perfume raw materials. True Muguet in character, it is a marvelous blending agent. Completely new chemical of the Muguet type of tenacious, intense, yet fine fresh floral character, neither irritant nor discolored, absolutely stable in soaps.

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**VERONOL** A versatile aldehyde of great power. An interesting top note and blending agent, it adds character and quality to any perfume. Use 1/10 to 1%.

**FLORANOL** An ester to achieve the natural character in Synthetic Rose to which it adds that slight apricot fruitiness found in the fresh flower. Reasonable in price, stable, non-irritating and non-coloring, it is of inestimable value to the perfumer.



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**EGAFLOR ROSE VB** A natural base replacement for Attar of Rose with great economy.

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**CHENAMBROL** Soluble product of extraction of Mousse de Chene and Ciste. Available also decolorized.

**DISTIRIS** Reconstitution from fractions of natural oils other than Iris Butter, distilled over Iris Roots.

**DISTIRONE** Reconstitution of Absolute Iris (Irene) odor in a mixture subsequently distilled over Orris Roots.

*You are invited to send for samples of any specialties that interest you.*

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Regular sodium metasilicate pentahydrate.



New Cowles Crystamet®—supplied in coarse, medium and fine ranges.

## Rounder, smoother granules ...freer flowing...easier mixing

We're proud of Crystamet® 2040, our new sodium metasilicate pentahydrate. It's made by a new, exclusive Cowles process so that it resists caking, mixes easier and remains dust-free.

These benefits result because these new Crystamet® granules are rounder, smoother, more uniform in size.

For a *free sample* of Crystamet® 2040 and a technical data sheet, just mail request on your company letterhead.

*"First real improvement in metasilicate in 25 years"*



**CHEMICAL COMPANY**

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## ON SPRAY- DRIED BEADS!



... and the practical way to capture new markets and profits is through ULTRA's complete service on spray-dried products.

#### Quality You Can Count On

With control equipment at each production stage, quality is always *right*. You can blend or sell ULTRA products with full confidence.

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Completely automatic packaging systems handle any standard carton.

#### You Can Concentrate On Sales

Let ULTRA do the processing, spray-drying and packaging. You can devote full attention to selling the expanding markets.

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... on all types of detergent-related products has built up a formulation and manufacturing know-how that is expressed in ULTRA's standard and specialty compounded bead products.

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Whether it's a built or nonbuilt detergent or foamer...or a filler for detergents...it can probably be spray-dried and ULTRA will know how to do it.

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- 4. Detergent Evaluation and Testing, by Jay C. Harris. 220 pages, 26 illus., 15 tables. A critical selection of methods and procedures for the testing of detergents. Price: \$4.50.
- 5. Organic Insecticides, by R. L. Metcalf. 402 pages, 7 illus., 70 tables. Covers most organic insecticides, their chemistry and their mode of action. Price: \$10.00.
- 6. Advances in Pest Control Research, edited by R. L. Metcalf. Volume I: 522 pages, 11 illus., 13 tables. Covers the most recent advances in all phases of the applied science of pest control. Price \$12.50. (Volume II in preparation)
- 7. Modern Chemical Specialties, by Milton Lesser. 514 pages, 22 illus. Covers formulation, properties and uses of some fifty types of household, industrial and automotive chemical specialties. Price: \$7.25.
- 8. Handbook of Cosmetic Materials, by Greenberg-Lester. 467 pages. Covers the properties, uses and toxic and dermatological actions of over 1,000 materials selected in response to a questionnaire sent to cosmetic manufacturers. Includes a chapter on the skin by Howard W. Haggard, Director, Applied Physiology Laboratory, Yale University. Price: \$13.50
- 9. Soap Manufacture, by Davidson et al, in two volumes. Volume I: 537 pages, 66 illus., 118 tables. Covers the history of the soap industry, theoretical principles of soap manufacture, raw materials of soap manufacture and the fatty raw materials. Price: \$13.50. (Volume II in preparation)
- 10. Cosmetics: Science and Technology, edited by Edward Sagarin. 1453 pages, 138 illus., 107 tables. Covers origin, development of cosmetic science and discusses individual products such as hand creams, suntan preparations, skin lighteners, shaving soaps and creams, nail polishes and removers, deodorants, aerosol cosmetics and many other cosmetic and toiletry products. Price: \$27.50.
- 11. Industrial Oil and Fat Products, by Alton E. Bailey. 991 pages, 164 illus. 133 tables. Covers the nature of fats and oils, their composition and structure; raw materials; industrial utilization. Price: \$18.00.
- 12. Fatty Acids, by Klare S. Markley. 678 pages, 81 illus., 163 tables. The chemistry and physical properties of fats and waxes. Price: \$14.50.

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CALL SURFACT-CO.

for formula constancy  
specify  
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DETERGENTS**

A MOST COMPLETE LINE

**CAR SHAMPOOS:**

Surfact-Co 60: Affords excellent foam and stability.  
Surco 57: Greatest foam, completely neutral and simplest viscosity control.

Surco DBSA: For those with adequate facilities for carrying out neutralization. Affords greatest economies.

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Surco 40 • Surco LD119: Completely formulated.  
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Surco SF42M: Anionic type not compatible with quaternaries.  
Surco Coconut Condensate: Compatible in formulations using quaternaries.

**GENERAL PURPOSE CLEANERS:**

Surfact-Co MA: High hard water tolerance. No coupling agent required.

Surco 5024: Standard type requiring coupler such as Surco SF42M or liquid soap.

**OVEN, EXHAUST FAN, DEEP FRY CLEANERS:**

Surco SF42M: —or—if high inorganic content desired, use Surco HDL.

**HIGH PHOSPHATE CLEANERS:**

Surco 5024: If good flash foam and low foam stability are required.

Surco HAB: If low flash foam and poor stability are required.  
Surco HDL Base: If high flash foam and high foam stability are required.

**LOTION TYPE FLOOR CLEANERS:**

Surco 5024: —or

Surfact-Co MA.

**CARPET AND UPHOLSTERY CLEANERS:**

Surco SLS, Surco TEA: To be formulated.

Surco 129: Completely formulated.

**TILE AND MARBLE CLEANER:**

Surco HAB: High silicate and alkali tolerance.

Surfact-Co MA: For use in formulations using an abrasive.

**WAX STRIPPERS:**

Surco HAB: For highly alkaline types.

For solvent types, Surfact-Co MA

—and Surco SF42M

**WATERLESS HAND CLEANERS:**

Surco 5024: For solvent types.

Surco X: Non-solvent types.

**HIGH VISCOSITY GERMICIDAL CLEANERS:**

Surfact-Co MA: With independent laboratory report on phenol coefficient when formulated as suggested.

**WHITEWALL TIRE CLEANER:**

Surco SF24M: With solvent type.

Surco HAB: With high alkali type.

**POT AND PAN CLEANERS:**

Surco 38:

Surco HDL Base:

**FOAM STABILIZERS AND THICKENING AGENTS:**

Surco Stabilizer #2:

Surco Coconut Condensate:

**COMPLETE FORMULATIONS**

**SURFACT-CO 56**

Floor Cleaning Synthetic Concentrate. End use dilution 180-1.

**SURFACT-CO 40**

Liquid Hand dish detergent. Copious foam, high stability under heavy load.

**SURFACT-CO 129**

Carpet cleaner and car washer. A synthetic paste detergent with auxiliary emulsifiers and foam stabilizers.

Surfact-Co is a low-cost, quality producer with ample facilities for prompt shipment during your peaks.

**SURFACTANTS BY SURFACT-CO**  
improve the efficiency, better the quality of synthetic detergents—assure formula constancy and minimize product and processing costs because Surfact-Co provides the basic materials at lowest cost per pound of active ingredients.

TO PROCESSORS, COMPOUNDERS AND DISTRIBUTORS Surfact-Co offers not only a complete surfactant line, but "the most helpful, thorough and professional Technical Service in the field". Without charge, our chemists help you improve your formulations, help you select the one detergent material best for your product—and they stay with you till optimum processing and formulation efficiency is achieved. Send the coupon for data, samples and prices. Include a notation—in strictest confidence—on any special product or product-development problem you might have.

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**perfume your detergent with Givaudan**

*Tergescents®*

Women are always "fragrance-conscious"—a pleasant scent is often the prime factor in her repeat purchases. You can key your household detergents to her preferences with low-cost Givaudan *Tergescents*.

These powerful, appealing fragrances—for liquid or powdered detergents—are especially developed to assure your detergent's success. They will give you outstanding consumer acceptance at very low cost.

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**GIVAUDAN-DELAWANNA, INC.**  
321 West 44th Street, New York 36, N. Y.

**SOAP and CHEMICAL SPECIALTIES**

## ... in brief

**H**AIR SPRAY . . . The announcement that a patent had been issued early this year for hair spray based on PVP (polyvinylpyrrolidone) came as something of a shock to a lot of people marketing aerosol products. The first which some folks heard about this new patent was a letter from the patentee stating that the patent had been issued and that they planned "to offer other reputable firms in the field the right to share in the use of our invention through appropriate licenses." The patentee invited those producing PVP hair sprays or those contemplating entering the field to inquire about their proposed licensing arrangement.

A study of the patent shows that it was filed July 31, 1952, almost seven years ago. Its nine claims appear to cover the field quite broadly as far as PVP hair sprays are concerned. At first blush, the patent might resolve itself into another Carter case, that is if it ever goes to court. Hair sprays represent the top selling aerosols. Where most other aerosol products can be packaged also in conventional style, this is not true of hair sprays. The aerosol made the modern hair spray possible. It will be interesting to observe the reaction of hair spray loaders and marketers to the new patent. Naturally, much will depend on the licensing arrangement.

\* \* \* \* \*

**S**HOCKER . . . Advertise cleaning compounds and other household products to men? Sounds like heresy to us. But it could happen. Dumas Milner Corporation, the livewire marketing outfit of household cleaners and such products with headquarters down in ol' Mississippi, has thrown a shocker into the midst of the advertising fraternity, the Madison Avenue boys of N. Y. The company has come up with the idea that it might beam some of its advertising of household products to men on the basis that a lot of men do housework, especially

dishes. And don't forget bachelors who live alone do their own cleaning, including dishes.

Now don't get the idea that the company is going off the deep end blind-folded. They have a survey to back up their thinking. They made a study of 5,000 subjects in 75 marketing areas plus a separate poll of 531 members of Congress. The study showed that 73 per cent of the nation's males help their wives with the house-work. Among the members of Congress, 85 per cent help with the household tasks, washing and drying dishes and washing windows.

This may come as a great shock to some males. To others it's old hat. They have been doing the dishes for years. So, maybe our friends down Mississippi way may have something.

\* \* \* \* \*

**I**DENTIFY . . . About 65 per cent of women shoppers do not get beyond one word in identifying a package on a supermarket shelf. This conclusion came after a check by an engineering firm which manufactures a device for testing legibility, label legibility of families of package groups in supermarkets. While about 5 per cent of the women questioned said they recognize the package by the over-all image, almost two-thirds stated that they spot only one outstanding word in making a purchase.

More than half of women shoppers said that impulse purchases were made when the product was pictured in full color on the package or when the contents could be seen such as in a glass container. Over a third of the women attributed their impulse buying to recognition of a product previously seen in advertisements. The bulk of purchases, however, are not impulse purchases. Most women know what they want to buy when they enter the store.

These observations are rather interesting when it comes time to redesign a retail package. How much of the old to keep? How much to discard?



Both of these phosphates are spray-dried. The hollow beads produced by this process stay free flowing for months...like those in the pile on the left which are six months old.

## Can you tell which pile of phosphate is six months old?

Notice that neither pile has caked. Both flow freely, because both are spray-dried. You can put this to work in both your process and your product.

Spray-dried phosphates from Hooker will stay free-flowing in storage and in your detergent on the grocer's shelf.

And that's just part of the story... consider these other advantages:

**70% more bulk.** You can put out a bigger box of detergent at the same price.

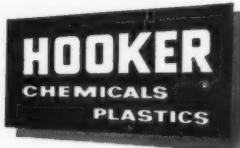
The 70% greater bulk of spray-dried phosphates translates into 20 to 30% greater bulk for your detergents. And it doesn't cost you a penny extra.

**Better wetting.** Spray-dried phosphates absorb your wetting agents faster and more thoroughly because of their greater surface area.

**Better blending.** The hollow beads of phosphate produced by spray drying stand up as well as other types during

mixing. Yet these beads dissolve two to three times faster than regular forms.

**Write for data.** For more information on Shea brand sodium tripolyphosphate and tetrasodium pyrophosphate which are spray-dried, write or phone to the address below. We'll also be glad to send you information on regular density disodium and trisodium phosphate, sodium hexametaphosphate, and sodium tripolyphosphate.



**HOOKER CHEMICAL CORPORATION**  
PHOSPHORUS DIVISION, DEPT. SC-4  
60 E. 42nd Street, New York 17, N. Y. • Murray Hill 2-2500

What part of the total image of the old package is vital in quick identification? Yes, just putting a package on store shelves in a form that will not be passed by becomes more complicated as time goes on. The price of maintaining brand identity seems to be everlasting market research.

\* \* \* \* \*

 COLOR . . . The wide range of colors available today in big-name toilet soaps is really getting in the hair of private brand soap marketers. For years, private brand soaps have enjoyed most of the business in colored toilet soaps. The big-time brands were white, the whiter the better. But as we all know, during the past year or two, the picture has changed. The nationally advertised products have been in a variety of pastel shades. Lots of people who liked colored soaps have switched to the well-known brands and this has hurt private brand sales.

This rage for colored soaps wrapped in foil could go on for a long time, probably as long as the big boys keep the advertising heat on. And what can the private brand fellows do, what with the nationally known brands now cavorting right in their own backyard and stealing their business away? Having examined most of the big-time products, we find them excellent products beautifully packaged. This makes the question tough to answer. There is possibly one out for the private brand firm. Go for the quality, higher priced market. Improve packages if possible and boost prices. Always there are those who will go for higher priced items.

\* \* \* \* \*

 SCIENTIFIC . . . Every day, we read that as a result of "extensive scientific research", this product or that one has been perfected and is now ready to be turned loose upon a world waiting with bated breath. The fellow may have started making the stuff in his garage and mixing it with a shovel, but always his efforts are designated as "extensive scientific research." Really, the term has come to have less and less significance as time goes on, — and especially in the field of household chemical specialties. If we noted a new product sent to market which was not the result of "extensive scientific research," it would astound us.

In this great age of science and scientific research in which we live today, we suppose the

inclination to climb on the scientific bandwagon stems from a natural human desire, — me too. But why not temper the desire with a little common sense? Why picture 200 chemists working feverishly night and day for several years to come up with a new brass polish, or a deodorizing block? Who gives a hoot whether the product results from scientific research or was discovered accidentally by some dumb cluck while baking a cheese cake? If it works, it works. Otherwise, scientific research or no, people will not buy it for long. So please, good friends, lets soft peddle this scientific research thing.

\* \* \* \* \*

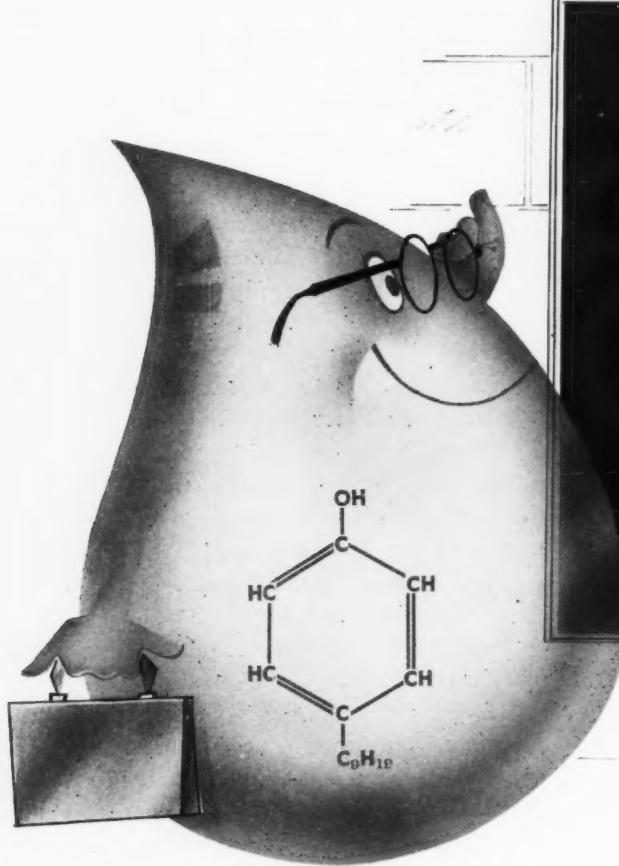
 SALES . . . In 1958, synthetic detergent sales were up. Soap sales were down. This was recorded in the tabulation of sales figures by the Association of American Soap & Glycerine Producers. Sales of both soaps and synthetics together just about evened up with 1957 at a figure well over four billion pounds. Dollarwise, 1958 saw the highest total in the industry's history, an increase of 4.3 per cent over 1957, itself a record breaker. Synthetic detergents in 1958 constituted 72.2 per cent of the total sales, a further increase over 1957 of 1.2 per cent in tonnage.

If any particular items should be singled out for special attention, they are probably soaps and liquid detergents. Soap sales continued a downtrend started some years ago. In 1958, soap sales fell 4.3 per cent. Liquid detergents, on the other hand, continued to zoom upward, reaching a new high of close to a half-billion pounds with a gain of 18.5 per cent over 1957. The feeling seems to be in the industry that the rise in liquid detergent sales still has a long way to go. As for soap sales and those who look upon soap as something of a dead duck, it might be pointed out that in spite of year after year losses, sales in 1958 were well above a billion pounds. Probably more than half of this latter was toilet soaps which show no inclination to follow the general downtrend of soap sales.

Judging from the Soap Association sales figures and the financial reports of a few of the larger soapers, 1958 was not too bad a year for the soap and detergent industry as a whole. Whether the first quarter of 1959 is living up to expectations may be a horse of another hue.

CAN YOU USE JEFFERSON CHEMICAL'S

## LIGHTER COLOR NONYL PHENOL?



### DIRECTORY

- Aromatic oils
- Detergents
- Dyestuffs
- Germicides
- Insecticides
- Light stabilizers
- Oil and grease additives
- Plasticizers
- Phenolic resins
- Surface-active agents
- Wetting agents
- Others...

Looking for a reaction compound with this formula?

Jefferson's Nonyl Phenol is a mixture of monoalkyl phenols predominantly para substituted, having random-branched alkyl side chains. This product now has a color specification of 100 Pt-Co maximum. In addition to its large-scale use as an intermediate in the manufacture of nonionic and anionic surface-active agents, Jefferson's lighter color Nonyl Phenol finds many experimental and actual applications in the development and production of the products listed above.

Nonyl Phenol is available from Jefferson's plant or warehouse bulk terminals throughout the country — tank cars and wagons; compartmented cars and

wagons; truck-load or LTL drum shipments. You can get detailed technical information by writing Jefferson Chemical Company, 1121 Walker Avenue, Houston 2, Texas.

  
**JEFFERSON CHEMICAL COMPANY, INC.**

HOUSTON • NEW YORK • CHICAGO • CLEVELAND  
CHARLOTTE • LOS ANGELES

Ethylene Oxide, Glycols, Dichloride • Ethanolamines • Morpholine • Piperazine  
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Ethylene Carbonate and Propylene Carbonate • Caustic Potash • Caustic Soda  
Soda Ash • Sodium Bicarbonate

*Essential Chemicals From Hydrocarbon Sources*

128

SOAP and CHEMICAL SPECIALTIES

## as the reader sees it . . .

### "Surprised . . . Flattered"

Editor:

I was surprised, but I must say very flattered, to see my picture on the front cover of the March issue of *Soap & Chemical Specialties*. I am very grateful for this generous consideration and for the very fine article on the 50th anniversary of our company.

Quite naturally, we are proud to have reached this milestone in our industrial career. As is the case with all successful companies, we did not make our progress alone. We were helped all along the way by our customers, who have had faith in us; by our suppliers, who have served us so well; and by the industrial press without whose cooperation we could not have obtained the wide acceptance of our products and the good will of the many markets we serve.

Thank you again for your cooperation and your splendid public recognition of our 50th anniversary.

John A. Carter,  
President,  
Oakite Products, Inc.  
New York

—★—

### Solids Not Solvents

Editor:

In the January, 1959, issue of *Soap & Chemical Specialties*, on page 83, there was a typographical error in the report of my paper which I presented during the 45th annual meeting of the Chemical Specialties Manufacturers Association in New York in December.

In the second paragraph, the following sentence should be corrected: "Polishes included shellac and polystyrene combinations, with solvent contents ranging from 12 to 17.5 per cent." The sentence should read as follows: "Polishes

included shellac and polystyrene combinations, with solids contents ranging from 12 to 17.5 per cent."

I. Shafiroff,  
Hysan Products Co.,  
Chicago

—★—

### "World Shaking Event"

Editor:

For some years my associate, Irwin Steig, has been arriving in the morning red-eyed and yawning, but with the appearance a cat has when he has just ingested a canary. He also nearly always has had more money in his pocket than seemed proper. It has developed that he had discovered a poker game inhabited to some extent by pigeons who were conveniently loaded. In the course of his investigations, he demonstrated many theorems which he discussed with his acquaintances among the Day people, but apparently resolutely with-

held from his playmates among the Night people.

With practically no urging at all he committed these intellectual tidbits to paper in a series of essays which are being published and which you will have the great privilege of reviewing prior to the publication date.

I just thought that you might be interested in this news so I am enclosing a photograph of Steig and a short announcement of this world-shaking event. I hope that you will be kind enough to give it some space in your publication.

Clarence L. Weirich,  
General Manager,  
The C. B. Dolge Co.,  
Westport, Conn.

—★—

### Confused — Still!

Editor:

The article on the second green page of the December issue of *Soap & Chemical Specialties* about Robert Levin joining Fuld Brothers was true, but it has caused a bit of confusion. The man you are talking about is Robert H.

(Turn to Page 103)

PRIVATE AUDIENCE: Rare private audience was granted last month by His Holiness, Pope John XXIII, to Peter Hopkins, left, director of sales training of Airkem, Inc., New York, and National Commander, Catholic War Veterans, during recent four weeks' visit to Europe. Accompanying Mr. Hopkins was Rev. Bede Scully, national chaplain, CWV. Mrs. Gertrude Carr, extreme right, is national president, ladies auxiliary, CWV.



From PROCTER & GAMBLE...  
 a complete catalog  
 of versatile formulation products  
 for your every soap or detergent need!



**KYRO EO** A neutral nonionic synthetic detergent of the 100% alkyl-phenol ethylene oxide condensate type. A light-colored liquid with a clean, pleasant odor. Its superior detergent, wetting and emulsifying properties offer excellent performance in liquid detergents, sanitizer detergents, self emulsifying solvents, laundry detergents, glass, textile and dairy cleaners, insecticides and bottle washing compounds.



**AMBER GRANULES.** A neutral 88%, 42° titer-type soap of exceptional purity and uniformity. Well suited for the preparation of paste or gel-like products because of its high titer. Its granular form makes it ideal for powdered products. Excellent for the preparation of hand cleaners, paste cleaners, polishes, lubricants and coatings.



**ES PASTE.** A specially developed synthetic detergent whose active ingredient is mainly modified alkyl sulphate. Offers exceptional efficiency and stability over a wide range of operating conditions. Wetting, penetrating, sudsing, dispersing and emulsifying properties make it excellent for the preparation of liquid shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, car washes, emulsion cleaners.



**AB GRANULES.** A neutral synthetic detergent, wetting and emulsifying agent of the 40% active sodium alkyl aryl sulphonate type. A white product that can be used effectively in the blending of bubble baths, car washes, dishwashing compounds, dairy cleaners, insecticides, laundry detergents, rug and upholstery cleaners.



**WA PASTE.** A neutral synthetic detergent and wetting agent whose active ingredient is mainly sodium alkyl sulphate. Excellent sudsing, wetting, dispersing and penetrating properties. Ideal for paste and liquid shampoos, bubble baths, liquid detergents, liquid car washes, liquid floor cleaners, insecticides, glass cleaners, rug and upholstery cleaners.



**IVORY BEADS.** A medium titer, neutral white soap of exceptional purity and quality. Well suited for compounding products where a mild but effective soap is required—hand soaps, polishes, protective creams, dishwashing compounds and paper coatings.



**K LIQUID.** A modified, highly concentrated ammonium lauryl sulphate—modified for increased sudsing and mildness. Exceptionally low cloud and pour points. Highly fluid and easy to handle. Ideal for clear liquid shampoos and liquid detergents where high foaming is required.

Procter & Gamble's Products Research Department will gladly supply you with information on how you can save time and money when you formulate with Procter & Gamble products. You can also get technical help in connection with their use by writing to:

*Procter & Gamble*  
 BULK SOAP SALES DEPARTMENT  
 P.O. BOX 599, CINCINNATI 1, OHIO





# Detergents . . . Cleansers . . . Soaps . . .

Aerosols  
Detergents  
Dishwashing compounds  
Floor scrubs  
Glycerine  
Hand cleaners  
Laundry soaps  
Liquid soaps  
Metal cleaners  
Potash soaps  
Scouring cleansers  
Shampoos  
Shave products  
Soap powders  
Starch  
Steam cleaners  
Medicinal soaps  
Textile detergents  
Toiletries  
Toilet soaps  
and other detergent  
and soap products

Premiums, such as those shown below, can be real sales builders. B. T. Babbitt, Inc., finds. How this firm, one of oldest and most ardent users of premiums, picks and promotes them is told by Jack Sugden beginning on page 47.





washes  
cleaner...

rinses  
clearer...  
with

## TRITON CF-10

Above all else, detergent formulations for automatic dishwashers should provide high detergency, controlled foaming and clean rinsing. TRITON CF-10 can give your formulations all three. TRITON CF-10 in alkaline built formulations removes soil from hard-to-clean dishes and utensils . . . reduces surface tension to such a degree that glassware rinses free of spots and streaks. This surfactant can also be used as a final-rinse additive.

This versatile low foam detergent also is used in metal cleaning compounds where minimal foam is essential. Use TRITON CF-10 for maximum detergency—minimum foam.

Write for samples and typical formulations developed by our laboratories.



*Chemicals for Industry*

**ROHM & HAAS  
COMPANY**

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*Representatives in principal foreign countries*

TRITON is a trademark, Reg. U.S. Pat. Off. and in  
principal foreign countries.

# TRITON CF-10

SOAP and CHEMICAL SPECIALTIES



Although widely different in appeal to the consumer, the four premiums shown above were among the most successful ever used by Babbitt. Included are doll, perfume, plastic scouring powder dispenser and a dishcloth.

## PREMIUMS...

**B**EFORE deciding on any premium promotion, my company submits the idea to a committee. There are certain "ground rules" that this committee observes in reviewing premiums and in selecting the marketing approach to be taken.

First, however, I should like to point out that the Babbitt company is and has been a firm believer in the use of premiums. In fact, B. T. Babbitt, Inc. was one of the earliest soap companies in the U.S. to use premiums to promote

**By Jack W. Sugden\***

B. T. Babbitt, Inc.  
New York

its products. In recent years we have used a wide variety of merchandise premiums successfully. One such is a plastic canister designed specifically for "Bab-O" cleanser. This premium has been used by us for about a year and a half, and the requests for it keep coming in steadily week after week, so that we know that it is a highly acceptable premium. The response to this premium has been so good that this year we are going to take

an entirely different approach with this premium.

Another premium that we have used to promote "Bab-O" cleanser is a set of copper-bottom saucers.

Successful premiums for our "Cameo" products have included copper salt and pepper shakers and a very attractive doll. We have been employing the doll successfully as a premium for the past few months and will continue to use her as long as the returns keep coming in well.

To promote Babbitt's Cleanser we have offered as premiums

\*Based on a talk given before New York Premium Merchandising Club, January 20, 1959.



A successful premium of "Breeze" detergent of Lever was an electric food warmer that was offered for \$1.00 plus certificate packaged with the detergent.

stationery, a saucepan and other items.

One of our most successful premium tie-ins this year has been a point-of-sale premium consisting of a dishcloth in a sleeve-pack with two giant size cans of "Bab-O" cleanser. This offer enabled us to secure many end-of-aisle displays that accelerate the rate of turnover of grocery products.

The examples cited above are mentioned to support an earlier statement I made that my company believes in the use of premiums. We, at the Babbitt company, are constantly searching for new and improved sales methods, sales techniques and sales approaches to sell more of our product to Mrs. Consumer. Naturally, hundreds of other manufacturers are also seeking the same thing, but we believe in the people who make and sell premiums. We want their help. We want their counsel. We want their guidance.

We believe that there should be a much closer association than exists today between premium users and premium sellers. And I don't mean at the social level, but at the creative level. We believe there should be a closer alliance between premium sellers, premium buyers, and marketing people. We think there has to be a "common de-

nominator" established for what premium buyers have a right to expect and what the premium seller is entitled to. The premium industry has grown too big to treat the subject lightly. The day of the fast-talking premium salesman is over, but, unfortunately, there are still a few left, and it is to this group that I would like to address my remarks. We believe such salesmen are responsible for the mistakes that are being made by premium sellers.

As I mentioned earlier, at our company we are looking for original ideas—unusual ideas. That is why we invite the assistance of premium sellers. We ask them to come to us with ideas that may be helpful to us.

Original and unique ideas, properly implemented and promoted, do work and usually are highly successful! We know because last year we were most fortunate in developing an idea that has paid off handsomely for us and the people with whom we sponsored the promotion. This particular promotion, and in a sense it is actually a premium promotion, was our "Buy Three—Ride Free" campaign in New York City. The idea was so successful that we have had a fabulous number of inquiries from other cities through-

out the U.S. As a matter of fact, we are going to stage "Ride Free" promotions in most major cities in the U.S. We have arranged for these promotions in such cities as Philadelphia, Boston, Detroit, Cincinnati and Pittsburgh. We are on the threshold of signing in Milwaukee and Cleveland, plus many other cities. We have just signed an agreement to do our "Ride Free" promotion in Miami.

The "Ride Free" idea was a very original one, which we believe was properly executed and correctly promoted, and above all, moved our products to consumers. The idea, conceived by our president, Marshall Lachner, and approved by farsighted officials of the New York Transit Authority, is an example of what we are looking for in a promotion.

We have placed on your tables miniatures of an outdoor billboard. We did this to call attention to billboard or outdoor advertising. Billboards are seen all over the country, and manufacturers spend millions of dollars yearly in this advertising medium. It has been a highly successful medium; using brief copy, developing a product impression, and creating selling impressions in the minds of consumers. We consider labels on our products to be billboards. The millions of packages of our products that are shipped each year constitute millions of selling impressions upon consumers in America and in foreign lands. We try to make sure that the copy on the label does a selling job from the very minute it gets into the hands of the housewife. We consider a label a very valuable property. And for that reason before we give up space on that label for any particular promotion, whether it is a premium promotion or of another nature, we seriously consider all aspects of such a change. We think that the premium seller should also consider the implications of changing the label on a product. Every manufacturer has a valuable property in his billboard, or label,



Lever used silver-plated twin candy dishes as send-away premium for its "Silver Dust." Offer called for customer to send in \$1 with boxtop of product.

and he wants to make sure that it is properly utilized.

Some of the premiums I have been discussing have been outstanding; returns on others have been only mildly good, and some just fair. The reason that certain premiums have been outstanding is that a great deal of planning, time, thought and effort went into them on the part of the premium buyer and the premium seller. As with other promotions, the end result of a premium is only as good as the time, effort, and energy put into it. But, on occasion, we have enthusiastic premium salesmen calling on us, who, without any forethought or advance planning, say: "here's the greatest thing since the invention of the wheel. This item is going to triple your sales. You should put it on your label immediately and go with it."

If the premium buyer doesn't see their point immediately, these salesmen become indignant. We think the day of this kind of selling is disappearing fast, which is why we believe that every premium man should not only be a salesman but a counselor, as well. He should take the time to plan his campaign wisely, and develop it on a sound marketing approach before discussion with the premium buyer. The salesman should try to maintain a completely objective attitude

during the entire preliminary examination of the use of the idea.

At our company there are "ground rules" covering the use of premiums. The first thing we look for in a premium is whether it has a utilitarian value to the consumer. A premium lacking in utility must be so unique that it creates in the consumer an immediate desire to possess it. Another requirement we have for premiums is that they be associated in some way with the product with which they are being offered. Many times premiums are shown to us that have absolutely no connection with our products or their applications. While such items may prove successful, we have found that we obtain our best results with premiums that have some connection with our products. That is why we try to select as premiums items such as a canister, dish cloth, or saucepan which can be cleaned with one of our products.

Sometimes the object we choose as a premium may have a less obvious, or indirect, association with one of our products. Our doll offer is a case in point. It is to

the children of housewives that our doll offer is directed. Perfume worked very successfully as a premium for us because we found out that many housewives like a better type perfume, but can't afford to buy it at the regular retail price. Thus, a good quality premium, offered at a reduced price, is highly acceptable.

In general, however, and notwithstanding the success we enjoyed with the indirect type premiums mentioned above, too often we are offered premiums that have no bearing on or relationship to the products we sell or the type of consumer who buys them. Therefore, we require that our premiums have a direct, or at least indirect, association with the Babbitt product they are intended to promote. Above all, whatever premiums we select must be of real value to the consumer, and ones that she knows are real values.

One of the most obnoxious practices we find in the use of premiums is the gross overstatement of the retail price values placed on many premiums. If a premium is designed exclusively

Continuity premiums being offered by Boyle-Midway for its Griffin shoe polishes division: one a complete set of monogrammed Cannon towels, the other a Washington Forge cutlery set of kitchen, carving and steak knives. Customers mail punch-out order tab printed on special cartons of ABC Liquid Wax with \$1 for initial unit, a set of three guest towels worth \$2.25, or a roast slicer which comes with the first of six free steak knives, worth \$2.79. With merchandise comes a "bounce back" enabling customer to order additional units at so much per unit and a Griffin box top. Whole promotion is handled by mail between customer and Boyle-Midway Division of American Home Products Corp.



to tie in with a product, it is rather difficult to put a shelf price on the premium. But so many premiums are offered that do have fair, measurable retail prices that it is simply ridiculous to overstate their prices. Why should we tell a consumer that a canister is worth \$2.00 when we offer it to her for 50 cents plus several product labels? We know the premium is not worth \$2.00. Too often we are approached by premium salesmen who exaggerate the retail prices of premiums so greatly as to insult the premium buyer's intelligence.

We have learned through consumer tests that the returns are greater on a premium on which a fair retail price is given than on those promotions in which the price of the premium is exaggerated. People today are smart enough to realize that nobody gets anything for nothing, but from practical experience an alert housewife knows that occasionally a good bargain does come along. That is what we want to offer housewives and consumers through our promotions: good bargains; not the world with a fence around it, or the promise of same. Each of us is aware, probably from experience in our own homes, that a housewife will scan the grocery newspaper advertisements and compare supermarket prices. She will go out of her way to save pennies on food items, because being a woman and a housewife, she feels obligated to practice economy. In making these price comparisons, if she notices a price that is too low a doubt is created in her mind as to quality, weight or some other aspect. Immediately a "red flag" pops up in her mind. The flag reads: "Careful, honey, there's something fishy here."

Let's not raise "red flags" in the minds of consumers by offering bargains that are "too good" and thus sound "fishy."

At times we receive suggestions that a premium, used successfully by another company, might with a slight twist be used by our firm. Well, it takes quite a bit

of imagination to put a "twist" on something that has been used before. There are, of course, exceptions, and there have been some items that have been offered successfully more than once. However, we are not interested in "repeat" premiums, but want something new or different. Frequently a premium seller may have an inventory of a premium which he attempts to sell at a reduced price. This is not unusual. It is merely a "me too" approach. However, most manufacturers contemplating the use of premiums are not looking for "bargains" of this sort. As I have mentioned before, we, like most major premium users, are looking for novel premiums.

It is our belief that a premium to be successful should be advertised. This may call for an appropriation over and above the regular advertising budget. Unfortunately there are very few advertising managers or agency representatives in the soap industry who are willing to subordinate the products they are promoting to the advertising of a premium. However, to sell a premium promotion effectively, the sale of the product must be subordinated. Very few marketing people will ever divert regular advertising space or time to a premium promotion. This means

The author of the accompanying article on premiums, Jack W. Sugden, is vice-president and director of marketing for B. T. Babbitt. He joined the firm in 1958, after having been with Colgate-Palmolive Co. in the sales and marketing departments for many years.



an additional outlay of advertising dollars to support a premium offer. All of which points up why it is necessary to think out the choice of a premium and its application before approaching the marketing man with a promotion idea.

Premium sellers should be willing to agree to have their products market tested before a buyer places an order for the particular premium. This is part of the concept of "counseling." Before we decide to use a particular premium, unless it is a very unusual one, we feel compelled to test-market it first. While this may prove annoying to some premium sellers, we have found testing to be essential.

We have several ways of testing a premium. One method is to mail samples of a premium to a test panel and get its reactions to the product. Another approach is the direct test in which the premium is placed in the retail store and the reaction of consumers observed.

Some premium salesmen are so enthusiastic about the merits of the products they are selling that frequently their judgment is affected to the extent that they will not allow these premiums to be tested. Such enthusiasm can blind a salesman to the fact that he may be jeopardizing his future standing with a buyer. A good counselor certainly will be more successful in the long run if he is willing to go along with a prospective buyer and wait 30 to 60 days for the results of the test marketing of a premium he is selling. Perhaps the test may show up his product adversely. Even if this happens, if the seller shows a willingness to have his product tested and go through the necessary waiting period for the results, the buyer certainly will have his door open to this salesman on his next visit. Somewhere along the line the seller and buyer will come up with a suitable premium. However, before this can happen, good judgment, sound thinking, logic and some testing have to be blended.

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# Fatty Acid Amido Derivatives

by H. W. Zussman\*,

Geigy Industrial Chemicals  
Ardsley, N. Y.

**T**HE reaction of fatty acids or their derivatives with organic amino compounds offers a convenient route to a wide variety of surface active agents. Figure 1 depicts some of the more important amines used commercially and the fatty acid derivatives employed for the reaction.

Of these the best known undoubtedly are the alkanolamides. One out of every three of the 160 surfactant manufacturers listed in the 1957 U. S. Tariff Commission Report on Synthetic Organic Chemicals is reported to be an alkanolamide producer. The tonnage involved represents about five percent of the total production of surfactants; indeed, a single 5000 gallon reactor with plenty of storage tanks could, without too much difficulty, turn out the country's entire needs. Ignoring the considerable captive production, this basically is a specialty chemical business and primarily the preserve of the smaller manufacturer. The equipment required is multi-purpose and relatively inexpensive; the raw materials are plentiful, readily available, non-hazardous and easy to handle; labor and skill demands are modest. The manufacturing process is simple. Fatty acid and alkanolamine are stirred with heating to 150-170°C, driving off water, until the fatty acid has reacted completely or almost so. Frequently, glycerides are used in place of fatty acid, in which case the glycerine is left in the reaction product.

The most commonly used alkanolamines are monoethanolamine, isopropanolamine, diethanolamine and aminoethylmethanolamine. With the monoalkanol monoamines, the reaction is straightforward, yielding substantially all amide.

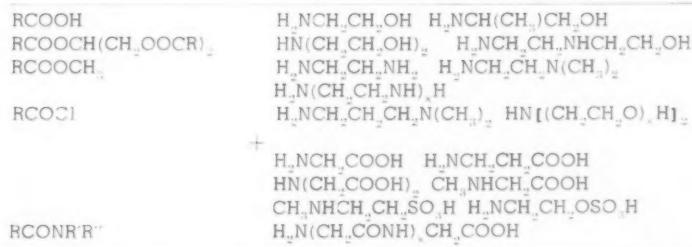
The commercial monoalkanolamide products offered are 1:1 mol condensates with coconut, lauric, myristic and stearic acids. The monoethanolamine derivatives are waxes ranging in melting point from 76 to 96°C (from coconut to stearic), and not particularly water soluble; the isopropanolamides melt about 20° lower, have better water dispersibility. The C<sub>12</sub>-C<sub>14</sub> derivatives are used principally in spray dried household detergents as foam stabilizers and detergency builders for alkyl aryl sulfonates and alcohol sulfates. Their use in liquid detergent formulations is limited by poor low temperature solubility, necessitating use of solvents to maintain clarity; hydroxyethyl stearamide is occasionally used as an opacifier and pearlizing agent in cream shampoos. A significant amount of hydroxyethyl cocomide is still sulfonated; the 1957 Tariff Commission Report lists

eleven companies doing this. The sulfonate is usually sold as a paste for textile use; it is, incidentally, an excellent product, comparable in many ways with lauryl sulfate, but unfortunately suffers from one fatal defect: it hydrolyzes slowly even at neutral pH's, thus has limited shelf life.

The 1:1 mol diethanolamine condensates prepared from fatty acids are complicated mixtures chemically; in addition to the expected diethanolamide, they contain a high percentage of ester amine and ester amide. The products are liquids or low melting waxes and are poorly dispersible in water unless acidified. The stearic derivative is an important textile softener and is used to some extent as a hair conditioner; it exhausts well from acid solution and although it does not soften as well as some of the quaternary ammonium compounds, it has better compatibility with other textile finishes, low chlorine retention, less effect on absorbency and on colors. The coconut derivative described as a fuel oil stabilizer, is also used as a drycleaning detergent.

The condensates made from

Figure 1.



\*Paper presented during the 32nd annual convention of the Association of American Soap and Glycerine Producers, January 20, 1959, New York.

2 mols of diethanolamine and 1 mol of coconut fatty acid, surprisingly, are water soluble. A typical analysis for this product might be:

$\text{RCON}(\text{CH}_2\text{CH}_2\text{OH})_2$	49%
$\text{RCOOCH}_2\text{CH}_2\text{NHCH}_2\text{CH}_2\text{OH}$	9.5
$(\text{RCOOCH}_2\text{CH}_2)_2\text{NH}$	
$\text{RCON}(\text{CH}_2\text{CH}_2\text{OH})\text{CH}_2\text{CH}_2\text{OOCR}$	10.5
$\text{RCON}(\text{CH}_2\text{CH}_2\text{OOCR})_2$	
$\text{HN}(\text{CH}_2\text{CH}_2\text{OH})_2$	28.0
$\text{RCOOH}$	3.0

The first patent was issued on this product in 1937, and emphasized its hydroscopic and dispersing properties. Only passing mention of its detergent and emulsifying action was made. One of its first uses was probably in dyeing of fur and hair, a special interest of the inventor, Wolf Kritchevsky; the product is still used widely for this purpose. During the early '40's, the product gained acceptance in textile processing, as in scouring and fulling of wool, dyeing, etc. By the mid '40's, it was being used both in the then waning soap shampoos (as a lime soap dispersant) and in the expanding lauryl sulfate shampoos (for thickening, foam stabilizing, conditioning).

Shortly thereafter the product made its appearance as a coupling agent in alkyl sulfonate/phosphate liquid detergent. It is not entirely suitable for use in spray dried detergents because of the tackiness it imparts. The amide found an important place in liquid formulations for washing dishes, fine fabrics or for the family wash. In addition to its synergizing effect on foam and detergent action of alkyl aryl sulfonates, the product is notable for its anti-redeposition characteristics, corrosion inhibition and antistatic properties. 2:1 condensates of capric, oleic and stearic acids are commercially available but are of secondary importance.

It will be recalled that the diethanolamide content of the 2:1 condensate is about 50 per cent. Examination of pure diethanolamide had confirmed the suspicion that this was indeed the active component of the condensate as far as

detergent formulation was concerned. Although the high purity amide was available commercially some years ago, prepared by the

manufacture of the important imidazolines and imidazolinium compounds.

Aminoethyl amides of fatty acids (derived from ethylenediamine) are, as expected, interesting products comparable with the primary amines made by reduction of fatty nitriles. Their commercial preparation free of highly insoluble diamides unfortunately has not been accomplished to date at a cost which will permit them to compete with long chain aliphatic amines available either from fatty acids or hydrocarbons. The formation of diamides may be prevented by blocking one of the amino groups; compounds of this sort available include N,N dialkylethylenediamine and the related N,N dialkyl 1,3 diaminopropane. Rather expensive, these materials are today being used to a limited extent in the preparation of tertiary amino amides principally for conversion to quaternary ammonium compounds.

Finally, reference should be made to the anionic fatty amides. In addition to the N-acyl derivatives of aminoethylsulfuric acid ester and methyl taurine (for which the 1957 Tariff Commission Report lists 15 and nine manufacturers, respectively) there are available a number of acylated aminocarboxylic acids. One of the oldest of these is the reaction product of fatty acid chloride with polypeptides prepared from leather scrap; this product has steadily decreased in importance over the years and finds limited use today. The N-acyl sarcosines, known equally long, showed a parallel decline until just a few years ago. The finding that sodium lauroyl sarcosinate reduces dental decay rescued this product group from comparative obscurity; the compound is now well established as a dentifrice ingredient, serving a dual function as anti-enzyme and foaming agent. Concurrently, intensive study of this and related products has uncovered other interesting and valuable

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# Specialty Anionics of Fatty Origin

By Fred E. Woodward\*,

General Aniline & Film Corp.  
New York

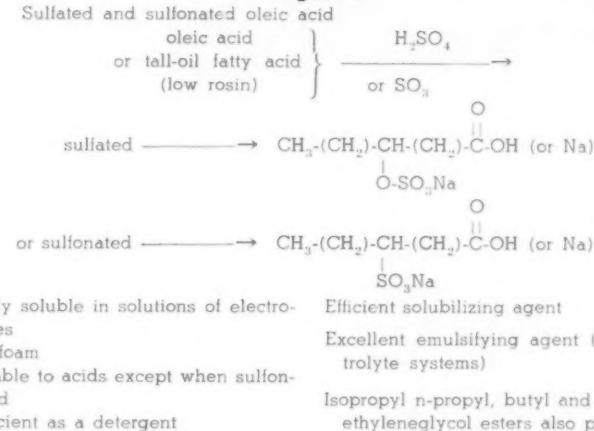


**S**URFACE active agents of fatty origin are among the oldest of surfactants. They date back to the early 1930's and, of course, much earlier to turkey red oil. Sodium N-methyl-N-ooleoyl taurate was the first surfactant to be spray dried in the United States. This event took place around Oct. 1, 1934. This product for many years has been and still is a standard of comparison, if not the work horse of the textile industry. Coco-glyceride monosulfate is another distinguished member of this category, which has a long and useful history. Although the group of products about to be described has not gone through the explosive period of growth that the alcohol sulfates and alkylolamides have experienced, there is reason to believe that a marked change took place in 1957 and 1958.

The most recent and most significant development in the field of anionics of fatty origin lies in the use of this basic type of product in combination with soap for toilet bars. The importance of this development is obvious. If the present trend continues it pretty much assures the continued use of soap in combination with synthetics based on fatty acids in this half billion pound market. This field of application lies outside the scope of this paper, but these developments do have significance in regard to the potential use of these products elsewhere. The

\*Paper presented during 32nd annual meeting, Assn. American Soap & Glycerine Producers, New York, Jan. 20, 1959.

**Figure I**



products in question are, or will become, available in large volume, at economical prices, and in a form in which they will be compatible with soap. This latter property is one which, coupled with excellent lime soap dispersion properties and mildness to the skin, is more or less characteristic of the whole class of anionics produced from fatty acids. All of which has led to their use in combination bars.

As a class, fatty based anionics possess another property of prime importance: outstanding su-

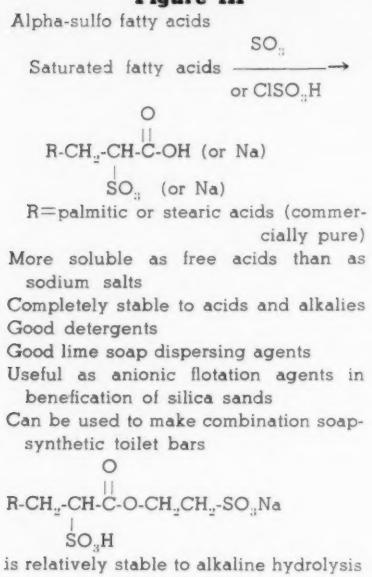
periority as cotton detergents. This will undoubtedly lead, in the near future, to their use in household laundry products on a substantial basis. This, again, is an area outside the scope of this paper, but we feel it has a significance which carries over into the industrial cleaning field.

A tremendous number of different synthetic surfactants derived from fatty acids have been made at one time or another. These products have found their way into a multitude of end uses which have further fostered the growth of many diverse products and tended to create a rather confusing picture.

Some generalizations can be made (to every one of which there will undoubtedly be an exception) which I will point out as we go along. A cross section of the types

**Figure II**

Sodium metasilicate (pentahydrate)	10
Sodium tripolyphosphate	5
Nonylphenol + 10 mols of ethylene oxide	10
Sulfated (or sulfonated) oleic acid-active basis	13
Water	62

**Figure III**

of products falling within the category under discussion is shown in Figures I to VIII.

In Figure I is shown sulfated oleic acid or, if it were not purified, turkey red oil. This product becomes a highly efficient surfactant when the excess fat, which is not sulfated during the reaction, is removed. Some of its outstanding properties are listed in Figure I. This sulfated product is not completely acid stable. Within the past few years a new product has been developed with almost exactly the same structure. However, it is a true sulfonate and is made by a different and patented process. This latter product is completely stable in both acid and alkali. In addition to the properties shown in Figure I this surfactant is an excellent acid stable wetting agent, a crystallization aid, and a conditioning aid for super phosphate when added during the acidulation of phosphate rock.

In addition, both of these products are efficient solubilizing agents or hydrotropes in built liquid cleaning compounds. A typical formula is shown in Figure II.

The other anionics of fatty origin which are produced in moderate volume are the sulfated isopropyl and n-propyl esters of oleic acid. These materials (as well as

the butyl and butoxy ethylene glycol ethers) are used primarily as wetting agents in the textile industry. The total sales volume of such products in 1957 was 2,942,000 pounds for sulfated oleic acid esters.

It is my opinion that sulfated or sulfonated oleic acid is frequently overlooked as a candidate in many industrial formulations.

For example, one would not normally consider these products to be effective emulsifiers. In electrolyte systems, they are frequently the only products that work, or the material that works best in combination with a more traditional material, such as a nonionic.

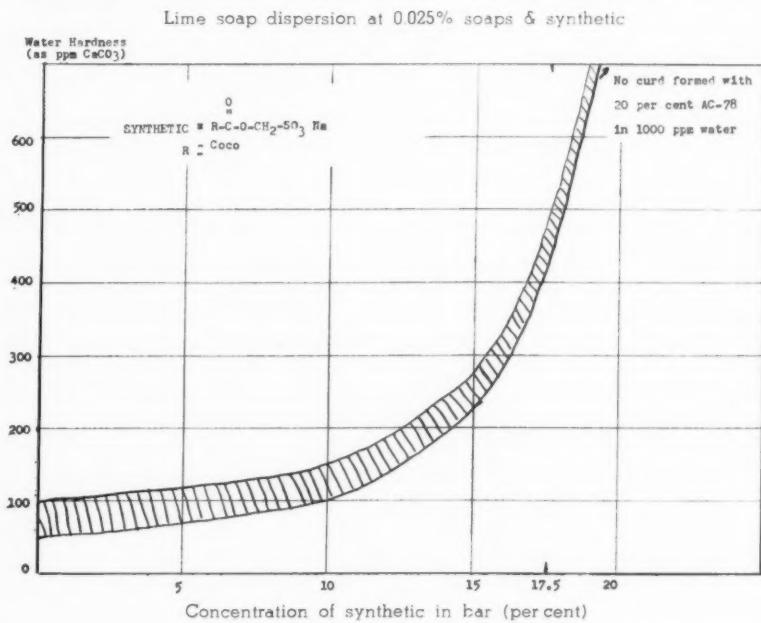
The appearance, in commercial quantities, of alpha-sulfo fatty acids (Fig. III) is a major development of the past year or two in the field of anionic derivatives of fatty acids. Dr. Stirton of the Eastern Regional Research Laboratory has done a great deal of work with these products through the years and has demonstrated their suitability in many applications, the latest showing that they may be used in combination with soap in toilet bars. They are excellent detergents and work well with builders. Because of the difference in strength between the sulfonic acid group and the carboxyl group, it is possible to make further derivatives

**Figure IV**

from these products such as esters and amides of either the carboxyl group alone or of both the carboxyl and the sulfonic acids group. Among those which appear to have utility is the ester of 2-hydroxy ethane sulfonic acid. (Fig. III).

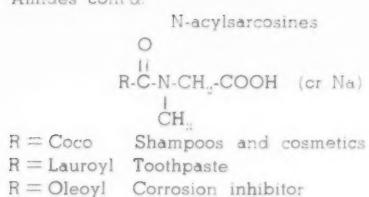
Since these products are relatively new, it is not possible to tell how extensively they will be used in the industrial cleaning products field. Their principal established use so far seems to be in the beneficiation of silica sands.

The alpha-sulfo fatty acids



**Figure V**

Amides cont'd.



represent the ultimate in simplicity from a raw material standpoint. They require only a saturated fatty acid, such as stearic or palmitic acid, sulfur trioxide and a recoverable solvent.

Figure IV shows the formulas for amides produced from fatty acids. The sodium-N-methyl-N-acyltaurates represented in Figure IV are the same products as mentioned previously. The products listed have several properties which make them particularly suitable for use in industrial cleaning formulations. They have excellent stability to acids and alkalies. In the case of the oleic acid derivative, they are extremely effective wetting, peptizing, and dispersing agents in highly alkaline solutions. As mentioned previously, they are excellent cotton detergents with either inorganic builders alone or in combination with soap and builders. They are efficient lime soap dispersing agents, and as little as five per cent on the weight of soap will prevent the deposition of lime soap deposits in hard water. Their wetting and dispersing action for fine particles is the basis of their widespread use in DDT wettable powders.

In textile scouring operations, sodium-N-methyl-N-oleoyl taurate is the standard of the industry. It is used in almost all phases of the wet processing of textiles because of its versatility as a wetting and dispersing agent, and its excellent detergency. It is used to disperse dyestuffs and as a wetting and leveling agent in the dye bath where it does not cause retarding, as do the nonionics. In the scouring of wool, yarn and piece goods, the taurates impart a soft hand to the goods.

The last compound in Figure IV is one of the lowest foaming of all anionic surfactants. The coco derivative, of course, is a high foamer, like all coconut fatty acids. The N-methyl taurate based on tall oil fatty acid has the unique property of preventing the precipitation of calcium or magnesium sulfates and other insoluble salts when present in concentrations as low as 50 parts per million.

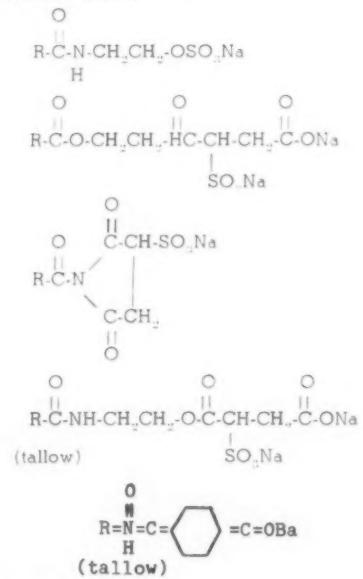
The sodium N-methyl-N-acyltaurates are made by adding a fatty acid chloride to an alkaline solution of sodium-N-methyl taurate. One mole of sodium chloride is formed.

Three derivatives of fatty acids which retain the carboxylic acid function as the solubilizing group are shown in Figure V. Although these products have significantly increased resistance to precipitation by hard water, as compared with soap, this is not the property which has led to their utility as noted in the principal uses shown in the figure.

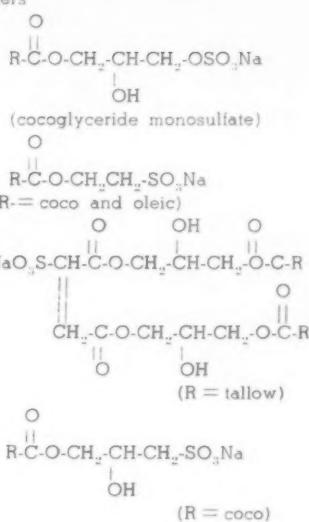
Some additional amide derivatives of fatty acids shown in Figure VI are perhaps not as well known as those just discussed. The first structure represents one of the many sulfated alkylolamides. These products, used principally as foam-

**Figure VI**

Amides cont'd

**Figure VII**

Esters



ing agents in the cosmetic industry, are excellent surfactants and are stable to alkali. If they were tallow or stearic derivatives, they would not be particularly high foamers.

The next three structures are listed without comment and we represent them merely as typical of the several types which were produced in 1957 but at volumes and for applications which are unknown to me.

The fifth compound in Figure VI is worthy of note in that it is the major constituent of a new, all-purpose grease which has recently appeared on the market. The product actually being marketed is the methyl ester, which can be modified in situ to any salt desired. Grease is a potential new outlet for a product which can be produced from fatty acids. This is a significant development in that satisfactory greases cannot be made from typical surfactant molecules unless they contain a long straight chain. This means that if all-purpose greases come to the fore, they will still be based on fatty acids.

Figure VII shows a new product which, although it has a rather complicated structure, has the unique ability to be soluble in saturated salt solutions. In addition, it will, when mixed with soap,

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# Bacteriostats in Home

THROUGH the use of an appropriate bacteriostat in certain household laundry detergents, one can impart a degree of anti-bacterial activity to the laundered goods.

Conventional bacteriological test procedures, particularly the F. D. A. Agar Plate Method, have been adapted to measure the bacteriostatic activity of textiles. In this procedure, the sample of fabric is placed on the surface of a suitable agar medium which has been inoculated with the chosen test organism. Inhibitory activity is indicated by a clear zone of agar adjacent to, or beneath, the fabric sample. One can evaluate various bacteriostats by determining the minimum concentration which produces some inhibitory action.

It is obvious, however, that this inhibitory activity must be translated into practical advantages for the consumer and that test procedures more nearly simulating use conditions must be employed to assess the actual value of the bacteriostatic action.

## Odor Control

One of the practical advantages afforded by a bacteriostatic detergent is improved control of perspiration odor which is known to be caused by bacterial degradation of sweat. One's clothing is probably a much greater of-

fender in the body odor problem than many of us realize. The author recalls a series of deodorant tests which consisted essentially of having a group of human subjects wash their axillae daily with a deodorant soap after which they donned clean T-shirts to be worn throughout the day. At the end of each day, a panel of odor judges sniffed the axillary area of each subject while the T-shirt was still on; then the shirt was removed and the judges sniffed the axillary skin directly as well as the shirt itself. In a number of cases, the axillary skin itself exhibited little or no odor, whereas the shirt gave a distinct, objectionable perspiration odor. There were also cases where both shirt and skin were odor-free or both exhibited objectionable odors.

Both perspiration and bacteria will be transferred from the axilla to the surrounding clothing

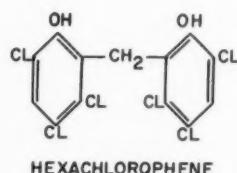
and odor development will ensue unless sufficient bacteriostat migrates from the skin to the shirt. Subsequent tests using T-shirts impregnated with bacteriostats showed significant reductions in axillary odor development, particularly when the test subjects were using a deodorant soap.

While this paper is concerned with imparting bacteriostatic activity to textiles by the laundry detergent, it should be noted that the textile manufacturers are applying bacteriostats to many clothing articles for odor control and sanitizing purposes. Poor laundry resistance of such treatments remains a major shortcoming and laundering with a bacteriostatic detergent should appreciably lengthen the effective life of the treatment.

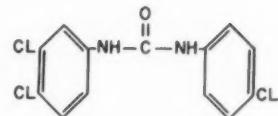
The dry-cleaning industry is also examining the feasibility of using bacteriostats in their dry-

FIGURE I

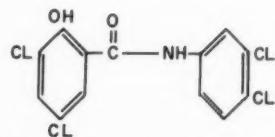
## BACTERIOSTATS USED IN LAUNDRY DETERGENTS



HEXACHLOROPHENONE



3,4,4'-TRICHLOROCARBANILIDE



3,3',4,5-TETRACHLOROSALICYLANILIDE

\*Paper presented at the 32nd annual convention of Association of American Soap & Glycerine Producers, New York, Jan. 22, 1959.

# Laundry Detergents

By R. E. Vicklund\*

Sindar Corp.,  
New York

cleaning solvents. Residual perspiration odor in wearing apparel that is dry-cleaned, is a major problem.

Bacterial growth in damp towels, wash cloths, soiled clothing in the laundry hamper, etc., frequently results in stale or sour odors, particularly in warm, humid weather. By incubating samples of moist, soiled toweling in a covered jar containing a little water, one can easily demonstrate a striking difference in the odor of samples washed with a bacteriostatic detergent and those washed with the detergent alone.

The objectionable odors described above are very tenacious and difficult to remove by laundering; in laundered wearing apparel, they are particularly noticeable during ironing.

Ammoniacal odors and der-

matitis associated with baby diapers are also a result of bacterial decomposition and can be controlled by bacteriostatic treatment of the diapers. Majors<sup>(1)</sup> recently presented a paper describing a procedure based on the determination of titratable acid or alkali produced by the growth of the test organism and held in the interstices of the test fabrics.

## Role in Sanitation

As a general sanitation measure, the use of the bacteriostatic detergents is also indicated. Today our hospitals are plagued by antibiotic-resistant staphylococcal infections which are difficult to control. Certainly no single measure will solve this problem, but just as certainly, the use of effective bacteriostatic detergents in hospital

laundries is indicated as a prophylactic procedure. It has been shown that the hospital laundry chute is a major source of "Staph"<sup>(2)</sup>, and further, that bacteriostats, such as hexachlorophene, are highly effective against these antibiotic-resistant organisms.<sup>(3)</sup> In the interest of good health and personal hygiene, we should strive not only to be visually clean, but bacteriologically clean as well.

In addition to the purely functional characteristics of bacteriostatic detergents, several other factors must be considered in the evaluation of bacteriostats for laundry detergents. The bacteriostats are not equally effective and compatible in the various detergent formulations. For example, 0.25 per cent of a bacteriostat in certain synthetic detergent formulations is effective, but as much as 2 per cent of the same bacteriostat is required in a typical laundry soap product. In fact, considerable variation in activity is observed when a given bacteriostat is added to the various synthetic detergent formulations presently on the market.

Some bacteriostats may discolor certain types of fabrics, nylon for example, and the compatibility of the brightener and bacteriostat must be considered from this point of view. Bleaching agents also may discolor bacteriostatically-treated fabrics and adversely affect their activity.

It is interesting that most of the bacteriostats currently used in laundry detergents are the compounds previously proven most effective in antiseptic and deodorant toilet soaps. For both applications the active agent must be highly bacteriostatic and must exhibit low

(Turn to Page 60)

TABLE I  
ANTI-BACTERIAL ACTIVITY OF LAUNDERED FABRICS

BACTERIOSTAT TESTED	CONCENTRATION (% BY WEIGHT OF DETERGENT)	ZONE OF INHIBITION, MM
HEXACHLOROPHENONE	0.2	0.5
TRICHLOROCARBA-NILIDE	0.2	0.5
TETRACHLOROSALICYLANILIDE	0.2	TRACE TO 0.5
HEXACHLOROPHENONE + TRICHLOROCARBA-NILIDE (RATIO 3-1)	0.1 0.05	1.0 - 1.5 TRACE

# Committee D-12 Honors Harris

THE annual meeting of Committee D-12 on Soaps and Other Detergents of the American Society for Testing Materials, held March 9 and 10 at the Park Sheraton Hotel, New York, was highlighted by the presentation of the 1959 Award of Merit to Jay C. Harris, D-12 chairman since 1950. Signed by R. E. Hauber of Procter & Gamble Co., award chairman, and by H. R. Suter, Wyandotte Chemicals Corp., secretary, the certificate cites Mr. Harris for "outstanding contributions and services in broadening our horizons in the field of detergents and detergency, and for inspirational leadership on behalf of the Society." Prior to becoming chairman, Mr. Harris had served as Committee D-12 secretary from 1946 to 1950.

E. W. Blank of Colgate-Palmolive Co., was appointed vice-chairman of D-12 to succeed W. H. Koch, Olin Mathieson Chemical Corp., who resigned.

Mr. Harris responded to the award with an address entitled "Committee Work and Fundamental Research," in which he outlined the course of D-12 work from the committee's inception in 1936 when soaps were the only detergents of practical importance. Development of analytical procedures so that satisfactory specifications could be written was the main trend then prevailing in the group's work. Mr. Harris said: "With the advent of surfactants and syndets in volume, development of analytical procedures lagged, and performance testing for comparative purposes took the ascendancy. The multiple difficulties inherent in performance testing and acceptance have slowed this progress, and the emphasis has turned again to analytical procedures for surfactants, now that the plethora of

products has been narrowed to outstanding survivors."

Complexity and variability of both substrates and soils makes selection of acceptable variables in performance testing extremely difficult, according to Mr. Harris. No "standard" soil has emerged, though "standardized" soils have been used successfully in some instances, the speaker pointed out.

Speaking of fundamental research in the field of detergency the speaker recalled the inception in 1947 of his own interest in the measurement of critical micelle concentration. Basic research in this field was overshadowed in the ensuing 20 years by work on all aspects of detergency evaluation, formulation and application. Micelle formation returned to the focus of the speaker's attention in 1956. He explained his interest in this subject as follows: ". . . cmc is closely related to the surface active function of the surfactant molecule and, in addition to finding out how it is related to soil removal, we want to correlate it with other surfactant properties not already elucidated by others. . . . Critical micelle concentration values have provided the only reasonable explanation for the fact

Jay C. Harris



that nonionics of selected characteristics can be used in such relatively small proportions as the active constituent in detergent compositions. . . . Using cmc values it is possible to predict the effective or equivalent carbon chain lengths of surfactant compounds."

Cmc formation in surfactant-builder systems, Mr. Harris pointed out, is largely dependent upon the cation concentration of the builder and in part on the sequestering power of the builder and its anion type and concentration. Optimum formulation compositions may be predicted from such data. Attempts are in progress to establish a quantitative relationship between detergency and cmc, Mr. Harris stated.

About the mechanism of oily soil removal from glass Mr. Harris said: "Adsorption, without which detergency could not occur, appears to be a fruitful area of investigation. The rate of adsorption at soil / substrate / detergent solution interfaces is an area we are already investigating. Desorption of surfactant which occurs during rinsing is another facet of this picture. Some work . . . has been concerned with the energetics (kinetic and thermodynamic) of the washing system, and this is another area meriting serious attention."

In conclusion, Mr. Harris paid tribute to the achievements of his coworkers at the research department of Monsanto Chemical Co., Dayton, O., and to the members of Committee D-12.

In addition to Mr. Harris' contribution two technical papers were presented at the meeting. J. W. Hensley of Wyandotte Chemicals Corp. spoke on "Adsorption of Labelled Sodium Carboxymethyl Cellulose by Textile Fibers in Relation to Detergency Action."

A paper entitled, "A Laboratory Dishwashing Test for Household Detergents," by W. G. Spangler, A. J. Frantz, and C. E. Buck of Colgate-Palmolive Co., was read by Mr. Spangler. A hand dishwashing test was described for the evaluation of synthetic detergents. The method was developed and is employed at Colgate's laboratories.

### **Subcommittee Reports**

The various subcommittees presented their reports. S-2—Specifications for Soaps and Synthetic Detergents, W. H. Joy, Bell Telephone Laboratories, Inc., chairman, recommended that the committee delete as no longer useful the specifications for palm oil chip soap and palm oil solid soap. Proposed was the development of specifications for widely used and manufactured synthetic detergents.

T-2—Joint AOCS - ASTM Subcommittee on analysis of Soaps and Synthetic Detergents, J. C. Harris, chairman, has a number of task groups working on various projects. Task group 8 under the chairmanship of J. L. Darragh, California Research Corp., works on determination of sodium carboxymethyl cellulose and expects to recommend a procedure for analysis at the next annual meeting. Task group 14 on rapid determination of moisture by infrared lamp, headed by O. L. Sherburne of General Aniline & Film Corp., will recommend a procedure next year.

A new procedure for the determination of anionic active ingredient in synthetic detergents by cationic titration was developed and recommended for a tentative standard by L. E. Weeks, Monsanto Chemical Co., chairman of task group 15.

Task group 20, under the chairmanship of C. A. Cohen, Esso Research and Engineering Corp., will present at the next annual meeting a revised procedure for determination of total active ingredient.

Task group 21, working on

the determination of detergent alkylate, is divided into three subgroups. Subgroup A, J. L. Darragh, chairman, expects to recommend a procedure for determination of distillation range. It is based on standards developed by Committee D-21 on Wax Polishes and Related Materials. Subgroup C, dealing with acid wash color, (R. C. Stillman, Procter & Gamble Co., chairman) recommended a procedure which the committee will propose as a tentative standard. Subgroup D on standard sulfonation procedure and analysis of product, headed by C. A. Cohen, reported on the design of a more satisfactory laboratory flask which will be tested before the next annual meeting.

Subcommittee T-4—Analysis of Inorganic Alkaline Detergents, M. V. Trexler of Westvaco Chemical Division, Food Machinery & Chemical Corp., chairman, has a task group headed by C. H. Russell,

Monsanto, working on chromatographic analysis of sodium tripolyphosphate. Cooperative evaluation data for a pressurized reverse flow ion exchange chromatographic analysis of STP were presented. The method will be recommended as tentative standard by the committee.

Reports were turned in by two task groups of subcommittee T-5—Physical Testing, M. G. Kramer, Wyandotte, chairman. Task group 3, headed by R. L. Liss, reported need for improved technique in measurement of reflectance of test fabrics on basis of cooperative tests. A tentative procedure is scheduled for presentation at next annual meeting. Task group 8, methods for evaluation of rug cleaning detergents, under the chairmanship of J. W. Rice, National Institute of Rug Cleaning, reported the development of a standard floor surfacing. ★★

### **Women Don't Read**

Latest research on women's behavior in supermarkets shows conclusively that 65% of women shoppers do not get beyond one word identifying a package on display. A spot check was conducted recently by R. E. Van Rosen Corp., 18 W. 56th Street, New York City, a research engineering organization which manufactures the Van Rosen "Videometric Comparator," an electronic device for testing legibility. The research project was undertaken to determine copy legibility of a family group of packages in the supermarket environment.

Of the 320 women shoppers —191 stated that one outstanding word was all they spotted when making a purchase, while 16 said they recognize the package they want by the overall image without reading anything.

Slightly more than half of all women questioned said that impulse purchases were made when the product was pictured in full color on the package or when the contents could be seen in glass containers, not obstructed by large labels. 35% attributed their im-

pulse buying to recognition of the product previously seen in advertisements or on television.

An extreme case of brand loyalty was the woman who said she was buying a certain brand of toothpaste for many years. One day she could not find the familiar package on the shelves. She realized that she paid no attention to brand name, recognizing the product by the total image of shape, color and geometrical design. Embarrassed, she went home, found the discarded tube and only then she was able to buy the toothpaste she wanted, now in a brand new package of different color and design.

As result of this survey the Van Rosen Videometric Comparator has been put to new use in market research. Full color photos of supermarket displays are enlarged to 15 by 20 inch size and placed in the test unit of the machine. The Comparator shows which package can be read first, second and so on. The threshold of recognition is so sensitive that differences of one per cent in legibility can be spotted.

## **Specialty Anionics**

(From Page 55)

increase the salt tolerance of the soap significantly. (Fig. VII).

The total production of amide derivatives of fatty acids in 1957 was 4,844,000 pounds, with an average value of 30 cents per pound.

The five principal anionic surfactants (esters of fatty acids) produced in 1957 are shown in Figure VIII. As a class they are all relatively unstable in highly alkaline solutions. They are also, of course, unstable under acidic conditions.

Although three of the products shown in Figure VII are among the largest selling anionics, their principal use is in the cosmetic field.

The list of products shown in Figure VIII could not be left out of this discussion. The principal items are sulfated tallow, for which the Tariff Commission reports a production of 8,362,000 pounds in 1957, and sulfonated castor oil of which about seven million pounds were produced.

The principal use of sulfonated tallow and many other sulfonated oils is in finishing agents for cotton. A basic characteristic of most surfactants derived from tallow and stearic acid is their ability to impart softness to fabrics and the skin and hair. Putting it another way, the majority of all products sold for softening cotton are derivatives of some type of stearic acid. The total production figures for sulfated fats in 1957, according to the Tariff Commission Report, was 39,262,000 pounds.

A word about the use of fatty acids in the detergent industry. Fatty acids are by far the cheapest and most convenient raw material for producing a surfactant containing a long straight chain of 12 to 18 carbon atoms. For most surfactant applications, structures containing such a long straight chain represent the most efficient

**Figure VIII**  
**Sulfated Fats**

Lard Oil	Castor oil
Neats-Foot oil	Coconut oil
Oleostearine	Corn oil
Tallow	Cotton oil
Wool grease	Linseed oil
Cod oil	Mustard-seed oil
Herring oil	Olive oil
Menhaden oil	Palm-kernel oil
Mixed fish oils	Peanut oil
Sperm oil	Rapeseed oil
Whale oil	Rice-bran oil
Tall oil	Soybean oil

products on a weight basis. This is particularly true of stearic and tallow fatty acids. A frequent difficulty with fatty acids when they are used as a basic raw material is their inherent tendency to oxidize in storage and produce color forming bodies during subsequent processing. There appears to be no substitute for freshness.

The large scale usage of fatty based anionics in industrial cleaning has largely been limited by their relatively high cost of production. The direct sulfation or sulfonation of unsaturated or saturated fatty acids can, at least theoretically, make possible large tonnage production of these surfactants for use in industrial cleaning at competitive costs.

The production of fatty alcohols and alcohol amides from fatty acids enjoy the distinct cost advantage of being produced by relatively cheap unit processes involving liquid raw materials and, at least during the processing stage, liquid products.

The sodium N-methyl-N-acyltaurates are perhaps the latest products to be made by a method involving large volume anhydrous bulk liquid processing. This is done by the direct condensation of a fatty acid with sodium N-methyl taurate. This new method gives a salt free product which is about 50 to 60 per cent active; the balance being fatty acid.

The anionics as a class are extremely versatile and unique. Because of this, they will continue to find their way into more and more outlets where other surfac-

tants just will not do the job. Perhaps in the industrial cleaning industry, too much emphasis has been put on cost in the cost vs. performance battle and this has precluded the testing of these products in some research laboratories for applications where they might prove to be the product of choice. Certainly, in the area of mixtures of soaps and synthetics, much remains which could be done to improve the utility of both soap and the anionics derived from fatty acids.

### — ★ —

#### **Coupon Group Established**

The appointment of a task group of representative coupon-using manufacturers to work to improve coupon handling techniques was announced last month by Paul S. Willis, president of the Grocery Manufacturers of America, Inc., New York. Serving as an advisory committee to GMA, the group is now preparing a code of ethics and procedure for the guidance of commercial institutions in setting up coupon clearing houses and will study further the ways in which the handling and redemption of coupons can be simplified and made more productive.

According to Mr. Willis, the continuing popularity of coupon promotions is evidenced by the ten billion coupons, worth about one billion dollars, which are offered annually to home-makers. Since they are popular with manufacturers and retailers as well as consumers, he noted, GMA is interested in improving handling methods and reporting all new developments which will aid the process.

Establishment of coupon clearing houses by banks in New York, Chicago, and California and a system of punch card coupons which can be handled by electronic equipment are among developments which are attracting added interest. GMA is also updating its coupon study booklet and plans to re-issue it to member companies.



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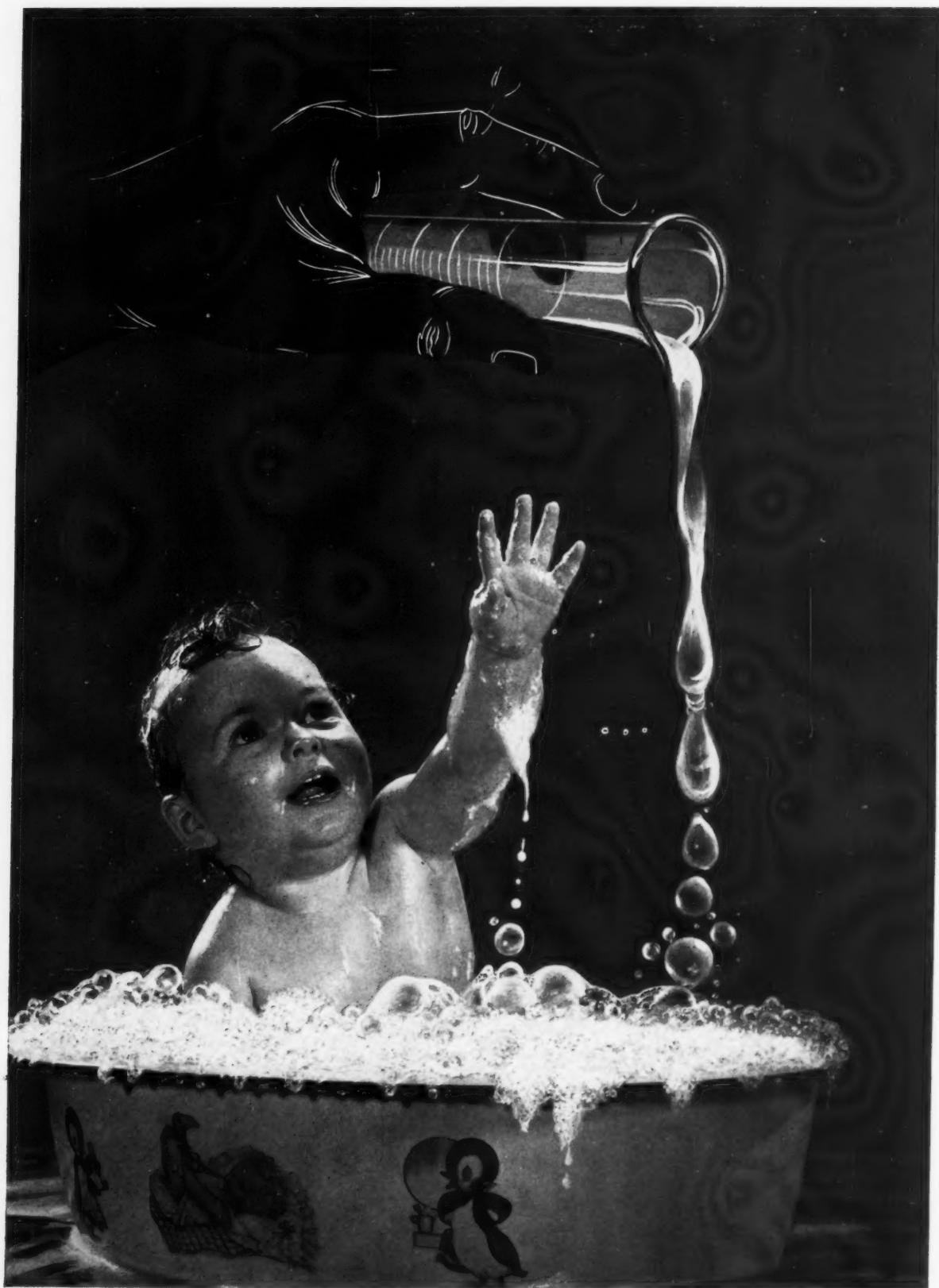
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P-2

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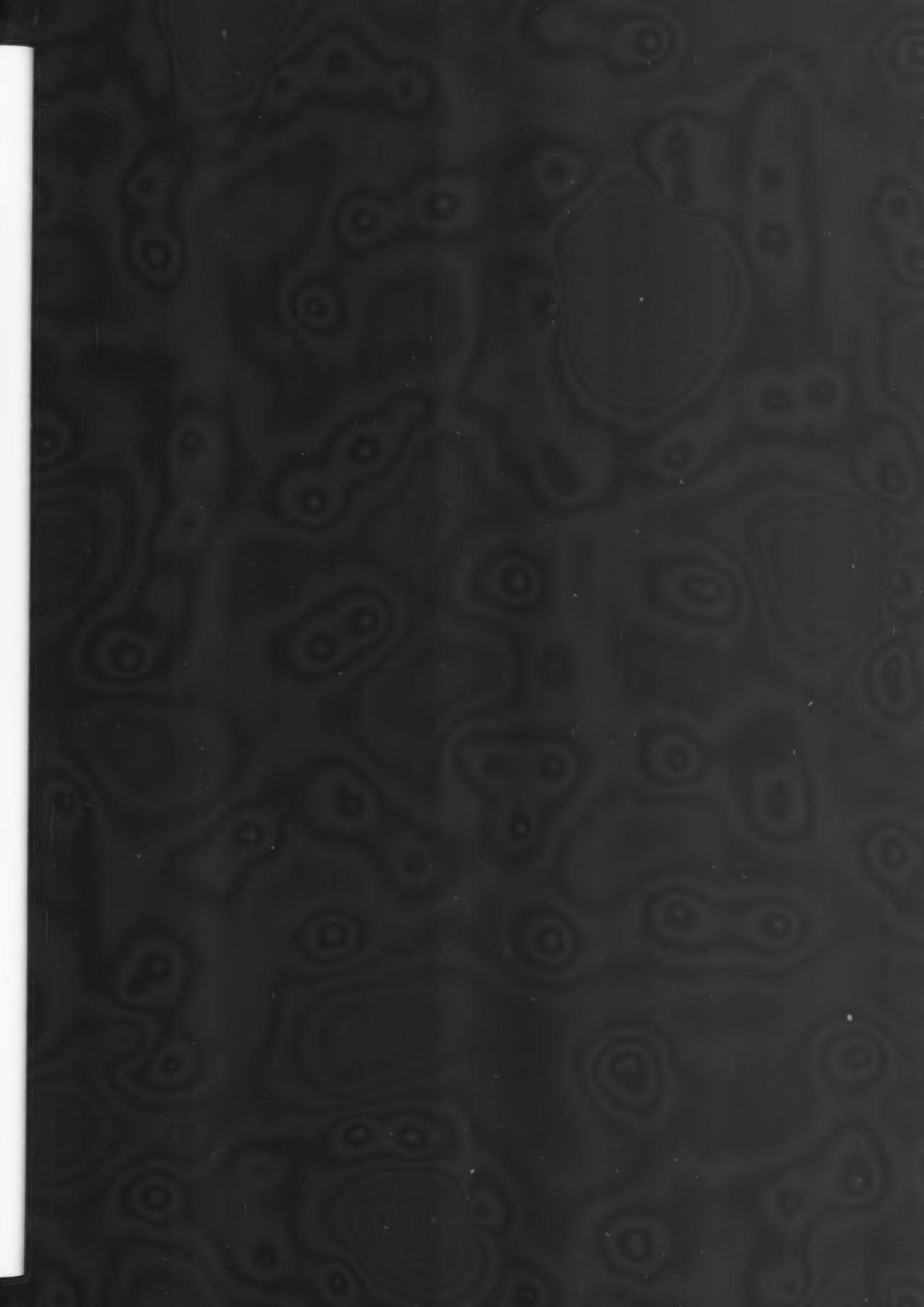
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# Moisture Control in Aerosols

By E. E. Husted\*

Union Carbide Chemicals Co.  
Div., Union Carbide Corp.  
New York

**E**XCESSIVE moisture in aerosols has been a problem for some time judging from the increasing number of inquiries we have been receiving.

As a result, the propellant technical service laboratory of Union Carbide Chemicals Co. has undertaken a number of studies on moisture control, which form the basis of this report.

In studying the problem, a number of obvious questions arise.

The first of these is, "What amount of moisture is normally present in aerosols and should it concern us?"

Most non-aqueous aerosols, where no special precautions have been taken against it, will contain moisture of at least 1,000 to 1,500 parts per million. In spite of this relatively insignificant amount of water—about one-tenth of one percent—the concentration can cause corrosion or adversely affect the concentrate.

The relationship of moisture to corrosion, as far as we now know, is that it increases the opportunities for corrosion, even though moisture has not been proved to be the sole cause—or even the major cause—of corrosion.

As more products are adapted for aerosol packaging, the effect of moisture on the concentrate poses an increasingly important problem. A prime example is the growing field of pharmaceuticals, where many medicaments have little or no tolerance for water.

*Recognizing that there is a*

*basis for concern, the second question arises as to determining the source of water.*

Obviously, moisture can come from five possible sources. These are: container, air in container, propellant, concentrate, or filling operation.

At the outset, we can eliminate four of these sources as areas of special concern.

No significant amount of water should be contributed by the container when it is handled in the normal fashion which requires its being blown out and/or evacuated.

The filling operation can also be rejected as a source because the filler has long since learned to guard against increasing the water content during a cold filling operation through ice dropping from filling nozzles.

Specifications for preparation of propellants are so rigid that moisture content is in the negligible area of only a few parts per million.

Although the air in the container can contribute a significant amount of water, this source need not be considered if filling is done in a humidity controlled room or under pressure with an average caution step prior to filling.

## Problem Area: Concentrates

The problem area remains with the concentrates most of which contain from one to a dozen components, any of which may hold moisture. Fortunately for the solution of this moisture problem, however, there frequently is a single component which provides

the major percentage of moisture. Usually, if this component is dried, the overall moisture content will be brought to a satisfactory level.

*The final question is, "How can drying be accomplished and at what point can it be most efficiently and economically carried out?"*

It will probably not be possible to place the burden on the supplier of the moisture laden component because . . .

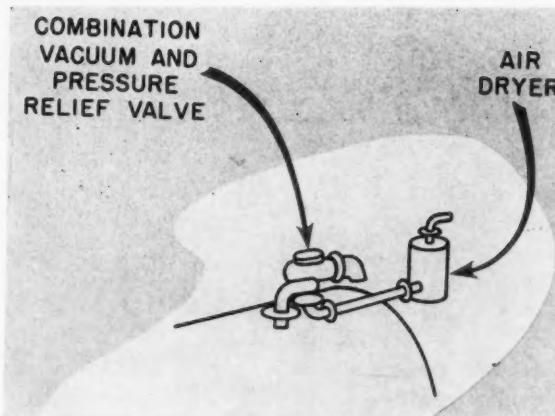
1. the product grade he provides is usually in volume demand, and the requirements for a product with much lower water content would not be sufficient to warrant his taking the necessary steps towards drying it, and
2. when a product is dried to a very low level of moisture, many problems arise as to keeping it dry during shipping and handling. Most material which has an extremely low moisture content will have a tremendous affinity for moisture.

Assuming, therefore, that the filler will have to carry out the drying himself, we should consider how and where he can best do it.

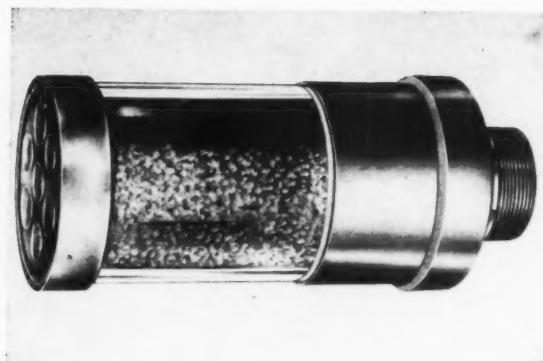
There are only three ways to remove moisture from a liquid system:

1. With material that has limited solubility for water, drying may be accomplished by allowing the liquid to stand, then separating the layer by decantation and the use of porous membranes. However, such a procedure is not satisfactory for producing material at the levels of moisture

\*Paper presented during 45th annual meeting, Chemical Specialties Manufacturers Assn., New York, Dec. 10, 1958.



Release valve and dryer



Air dryer containing desiccants

- with which we are concerned.
2. Although fractional distillation cannot really be considered drying, it is applicable where a large percentage of water is to be removed. However, this method usually requires large expenditure and the use of large-scale equipment.
  3. The only economically feasible method, then, is to dry by passing the liquid through a bed of dry desiccants.

#### **When and Where to Dry**

If the method of drying by desiccants is adopted, the question arises as to when and where to dry.

1. One possibility: At the time of unloading of a tank car or tank truck—or when the material is being passed through the dryer into a storage tank. Of course, appropriate precautions must be taken to insure that the material will remain dry.
2. If the quantity of material to be dried is not too great, and if it represents only a part of the total amount of the material used, it would be possible to set aside a separate small storage tank and dry just a portion of the total product.
3. The material could be dried en route from the storage tank to the filling line at the actual time of filling.

In most cases, this is the point at which drying can most

readily be carried out. It overcomes two major difficulties inherent in the other possible alternatives: (1) it avoids the need for special equipment for keeping the storage tanks dry, and (2) the rate of flow of the product to the filling line is probably lower than it would be at the time of unloading either a tank car or tank truck. This means that smaller and less expensive drying equipment is practical.

#### **Keeping Dry in Storage**

In the event that the decision is to dry the material before storage, how can it best be kept dry in storage? Most standard liquid storage tanks are vented directly to the air, which is why they are unsatisfactory for keeping products dry. As the product level in the tank is lowered, the space is replaced by humid air which adds moisture to the product. To avoid this, the breather should be equipped with a drier so that the air is dehumidified before it enters the tank. For the sake of safety, such a unit should be part of a "T" assembly so that a relief valve and, in the case of flammable materials, a flame arrestor can be provided.

An obvious question: If it is difficult to keep these materials dry, why is there no serious problem with fluorocarbons? The basic difference is that the fluorocarbons, since they are under pressure, require a piping and tank system different from that normally used

for solvents. The result is that any leakage would be outward, rather than inward.

#### **Selecting a Desiccant**

Many types of dry desiccants are available. Four of the primary types for liquid drying are silica gel, produced by Davison Chemical Company, division of W. R. Grace Company; "Mobilbead", produced by Socony Mobil Oil Co.; activated alumina, produced by Aluminum Company of America; and molecular sieves, produced by Linde Co., division of Union Carbide Corp. All of these materials vary widely in chemical properties and physical characteristics. But what they have in common are dry granules, or particles, having porous structures which provide large areas for moisture adsorption.

There is no hard-and-fast answer to the question of which one of these products will do the best job of drying. Each provides advantages, as well as drawbacks. The important thing to know is that they exist. Producers of desiccants will be able to advise on range of capabilities.

#### **What Products to Dry**

What products are likely candidates for drying? In the area of corrosion, hair sprays, insecticides and surface coatings are most subject to corrosion. If it is necessary to dry these products, the major component of the concentrate to be dried would be alcohol

and chlorinated hydrocarbon, in the case of hair spray; the petroleum distillate carrier, in the case of insecticides; and, in surface coatings, the active solvent and diluent would be an ester, ketone, chlorinated hydrocarbon or aromatic hydrocarbon, and alcohol.

With pharmaceuticals, drying may have to be done to prevent harm to the concentrate. Here the carriers for the active ingredients in non-aqueous systems will probably be of the general solvent type: alcohols, esters, ketones and hydrocarbons.

The type of products which will require drying are relatively limited.

#### Drying Polar Liquids

The most difficult products to dry are those known as "polar" liquids. And the more polar, the more difficult. Such products as alcohol and ketones are included in this category. The difficulty is that water is also polar, so that the product competes with the water for the adsorption surface.

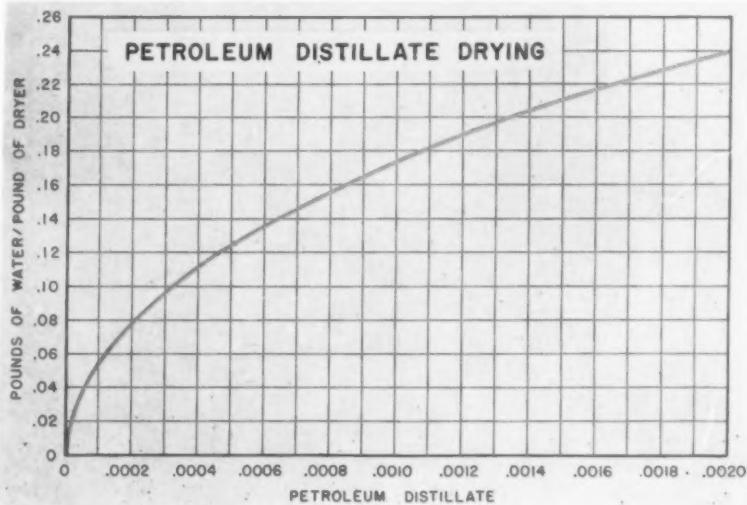
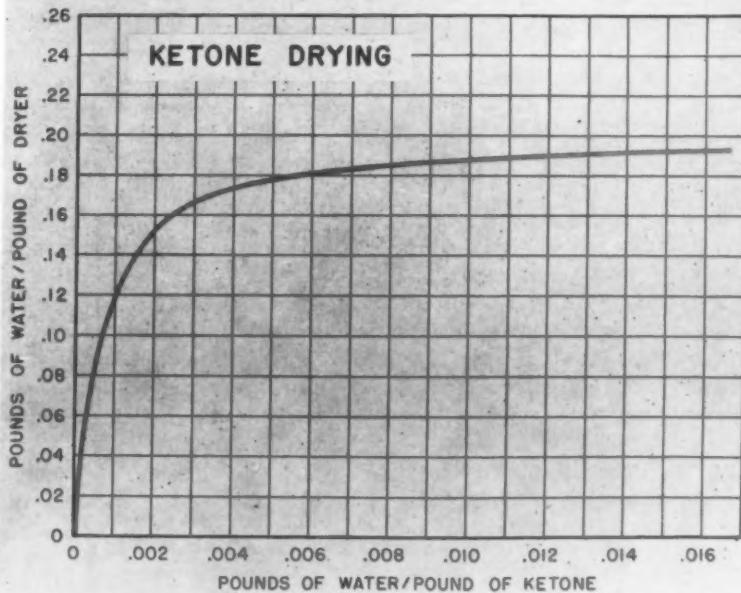
Molecular sieves are the only desiccants which can be used effectively to dry polar liquids.

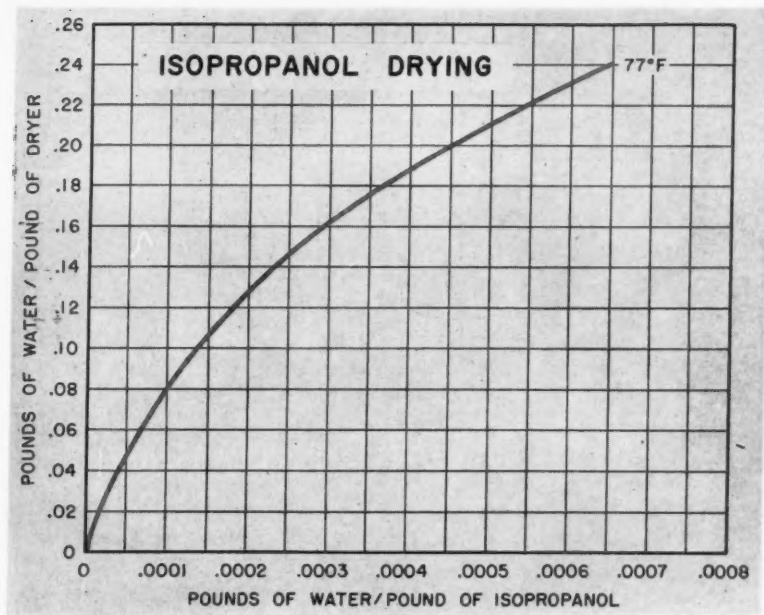
In attempting to determine the proper drier and equipment, it is important to understand fully the variables and not buy on price alone. Desiccants range in price from 10¢ to \$1.95 a pound. Under many conditions, the most expensive may prove to be the most economical. Keep in mind that any of the driers will absorb a certain percentage of moisture from a given liquid. Therefore, if one desiccant at 30¢ a pound absorbs only one per cent water, and another product at \$1.50 a pound absorbs seven per cent, the initial price is not significant.

Because of the wide variation in the capacity of driers to absorb water from different liquids, it is apparent that the selection has to be made on the basis of the specific liquid involved. Another variation among desiccants is in the types of container

#### COMPARATIVE CHART Solid Drying Agents

PROPERTY	MOLECULAR SIEVES	MAGNESIUM PERCHLORATE	CALCIUM SULFATE	SILICA GEL	ACTIVATED ALUMINA
Low water-vapor pressure	X	X	X		
High water capacity	X	X		X	X
Non-explosive	X		X	X	X
High-temperature desiccant	X	X	X		
Non-deliquescent	X		X	X	X
Undamaged by liquid water	X				X
Can be regenerated	X	X	X	X	X
Non-corrosive	X	X	X	X	X





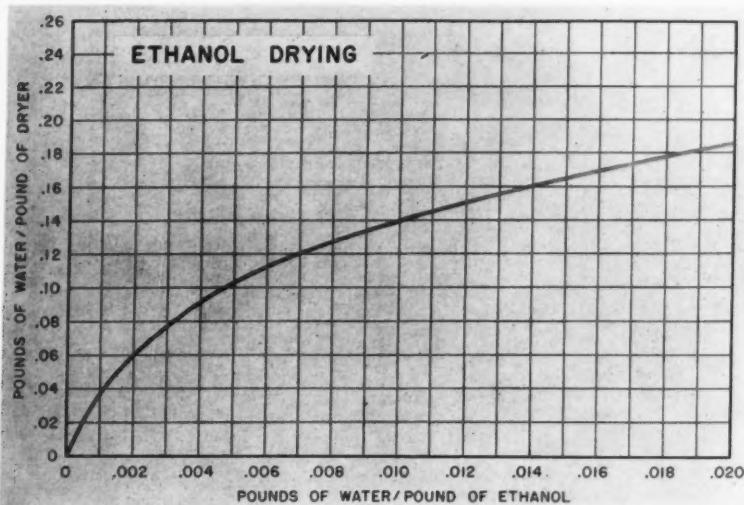
in which they are packed. These containers range from a single-unit, home-made chamber that costs about \$600, to a fully-automatic, regenerative unit priced at about \$15,000 and more. The type of equipment required is determined by flow rate, amount of material to be dried, amount of water to be removed, level of dryness required. Also to be considered is whether the operation will be continuous or batch.

#### Regenerating a Desiccant

All desiccants are limited in the amount of water they absorb.

When saturated, the bed must be replaced or regenerated. In most cases, it is too costly to throw the bed away. Regeneration is accomplished by heating the desiccant to from 250° F. to 600° F. (depending upon which one is used), and passing a sweep of inert gas through the chamber to remove the material absorbed. If continuous service is required, two beds are provided so that while one unit dries, the other is being regenerated.

Specific examples may be helpful in showing how the role of various factors that affect water



removal operations and equipment have a bearing on the size of the unit required. In one case with which we are familiar, the customer wanted to dry methylene chloride. Since the operation was needed for only one product, the amount of material to be dried was only 3,000 gallons a month.

Without going through all of the design calculations, it can be said in summary that 130 pounds of desiccant proved adequate to dry a quantity of product sufficient to last for one year. We determined that the most feasible unit was a single cartridge, with the drier being thrown away once a year. Based on this single unit, the cost of the equipment figured out to about \$600. The cost of drying, including only the price of the equipment and the disposal of the drier, worked out to be less than six mills per can.

#### Case Histories

In another case, in which a customer wanted to reduce the moisture content of a hair spray, it was necessary to dry an alcohol component. This particular case shows quite clearly how much variation can occur under different conditions. Based on drying enough alcohol to fill two million 16-ounce cans, equipment cost is shown in Table 10.

Obviously, a substantial savings can be made if it is possible to regenerate the bed during the time when the line is not running, or on a non-continuous basis. Even more interesting is what happens simply by changing from ethanol to isopropanol.

#### Tips on Drying

When it is desirable to obtain aerosols of unusual dryness, it is feasible to accomplish this without undue cost on a per-can basis, if all aspects of the problem are carefully considered.

When considering drying, it is also wise to determine whether a substitution in solvent might provide a more economical system.

And it must be noted that most dryer manufacturers, and all the desiccant producers are prepared to help study the problem. Our "Ucon" propellant technical service laboratory, for example, is available for help in reformulating, if necessary, to find solvents more easily dried.

#### Acknowledgements

Air Products, Inc.  
Allentown, Pa.

Air-Dry Corp.  
Van Nuys, Calif.

Aluminum Co. of America  
1501 Alcoa Building  
Pittsburgh 19, Pa.

Anders Lykens Corp.  
Division of Milton Roy Co.  
1300 E. Mermaid Lane  
Philadelphia 18, Pa.

Black Sivalls and Bryson, Inc.  
P. O. Box 1714  
Oklahoma City, Okla.

Bryant Manufacturing Co.  
2020 Montcalm St.  
Indianapolis, Ind.

Cargocaire Engineering Corp.  
15 Park Row  
New York 38, N. Y.

Davison Chemical Co.  
Division of W. R. Grace & Co.  
Baltimore 3, Md.

Delta Tank Manufacturing Co.  
Baton Rouge, La.

Desomatic Products, Inc.  
1109 West Broad St.  
Falls Church, Va.

Dryomatic Corp.  
806 N. Fairfax St.  
Alexandria, Va.

The Fish Engineering Corp.  
M & M Building  
Houston, Tex.

Gas Atmospheres, Inc.  
Cleveland, O.

Gas Drying, Inc.  
East Hanover Ave.  
Morristown, N. J.

C. I. Hayes, Inc.  
800 Wellington Ave.  
Cranston 10, R. I.

Hudson Engineering Corp.  
P. O. Box 6158  
Houston 6, Tex.

The Industrol Corp.  
East Roselle Park, N. J.  
(Turn to Page 104)

#### DRYING DATA FOR POLAR LIQUIDS

	Dryer A	Dryer B	Dryer C
Methanol: H <sub>2</sub> O, Conc. wt.-% Loading, wt.-%	0.54 2.5		0.60 0
Ethanol: H <sub>2</sub> O, Conc. wt.-% Loading, wt.-%	0.25 7.0	0.45 1.5	0.58 0
2-Ethylhexanol: H <sub>2</sub> O, Conc. wt.-% Loading, wt.-%	0.21 16	0.45 2.6	0.49 3.5
n-Butyl amine: H <sub>2</sub> O, Conc. wt.-% Loading, wt.-%	1.65 10.4	1.93 3.4	2.07 0
2-Ethylhexyl amine: H <sub>2</sub> O, Conc. wt.-% Loading, wt.-%	0.25 15.1	0.43 6.1	0.53 1.7
Ethyl ether: H <sub>2</sub> O, Conc. wt.-% Loading, wt.-%	(0.001 19.5	0.16 6.2	0.27 4.3
Amyl acetate: H <sub>2</sub> O, Conc. wt.-% Loading, wt.-%	0.002 9.3	0.33 7.4	0.38 1.9

Figure at right shows how desiccant can be regenerated by heating.

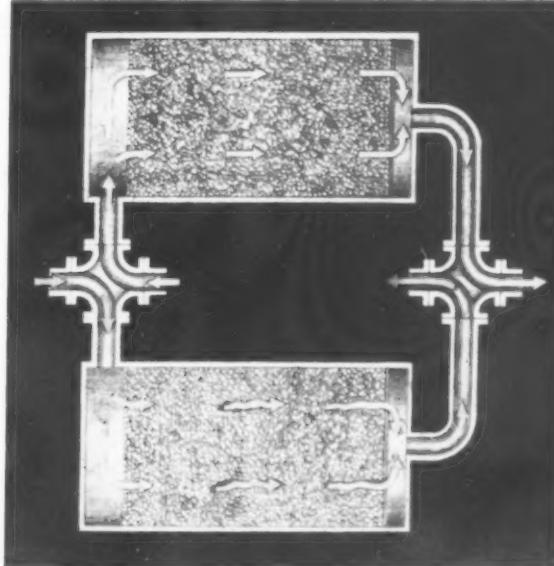


Table 10 below

#### COST DATA FOR DRYING ALCOHOL

	Ethanol Continuous	Ethanol Non Continuous	Isopropanol Continuous	Isopropanol Non Continuous
Equipment Cost	\$17,200	\$11,200	\$8080	\$5140
Cost/Cdn Based on 2,000,000 Units	\$.0086	\$.0056	\$.0040	\$.0026



Photo courtesy Port of New York Authority

PINE oil, a collective name for the essential volatile oils derived from pine trees, is familiar to most Americans who use public washing facilities. They have learned to associate its odor with public buildings where pine oil containing soaps and disinfectants are used in maintenance. And pine oil is not limited to cleaning purposes alone. It is effectively used in textile chemicals, insecticides, detergents, emulsion paints, delustering agents, in the paper industry, and as a reagent in ore floatation, to cite some of its other applications. (1)

Pine oil is an example of a useful product obtained from waste material. The forests of our Southern states are the largest source of pine lumber. However, once the trees were felled, the land had little value because the stumps were preserved through the resinous material located in their roots. Rotting, a process that usually develops in hardwood stumps, could not be relied on to clear the land. However, with the development of the chemical in-

dustry, research revealed the valuable substances locked in these stumps and their recovery became an important business. Today, these stumps are removed to plants and reduced to chips in preparation for the extraction of valuable raw materials known as naval stores.

The longleaf southern pine, *Pinus palustris*, is the largest source of pine oil, although other species of pine are used. Pine oil is also obtained from the distillation of pine cones and needles.

In the manufacture of pine oil from the chipped stumps, the three processes most commonly employed are steam distillation, destructive distillation and extraction. After steam distillation, an oily layer appears which is fractionated to obtain pine oil and wood turpentine oil. The chips are further treated with solvent to extract pine oil, turpentine and rosin, each separated by fractional distillation.

For a chemical material standards must be established which ensure a product of con-

## Sanitizers Based on P

sistent content. Federal Specification LLL-0-358 has become the official standard since July 13, 1945, for pine oil. The standard material is composed mainly of the tertiary alcohol alpha-terpineol present from 65-70 per cent, the remainder consisting largely of the secondary alcohols, borneol and fenchyl alcohol. Industrial pine oils contain about 10 per cent of other tertiary alcohols including dihydro-alpha-terpineol, about 5 per cent methyl chavicol, and about 5-10 per cent ketones.

Pine oil is a volatile oil which varies from colorless to light amber to a dark shade and it has a pleasant, distinctive, clean odor of pine. Although practically insoluble in water, it is freely soluble in alcohol, and soluble in the usual organic solvents as well as in most of the lacquer solvents. Of particular interest is its powerful action as a solvent for natural and synthetic gums and resins, oils and many of the cellulose ethers.

Pine oil is a useful emulsifying agent, wetting agent, penetrant, dispersing agent, and an activator of pesticidal and germicidal properties in such formulations. For example, in cattle sprays, it is used to disperse such insecticides as pyrethrins, rotenone or derris root.

The most important property of pine oil, which has served as a basis for one of its largest uses, is its deodorizing and disinfectant action<sup>(2)</sup>. Although it is practically non-toxic and non-caustic, it exhibits disinfectant, germicidal, insecticidal and fungicidal properties. The terpene alcohols in the pine oil account for this bactericidal action. However, since these alcohols are only about

# In Pine Oil

By Ibert Mellan and Irwin I. Lubowe, M.D.  
Polychrome Corp.,  
Yonkers, N. Y.

two per cent soluble in water, pine oil is emulsified to increase the surface area for effective destruction of bacteria. Emulsifying agents used with pine oil may be soap and other additives. The Commercial Standards Act specifies that a pine oil disinfectant must have a minimum phenol coefficient of 5 and a minimum content of 60 per cent pine oil. Its phenol coefficient is usually determined against *B. typhosus*. Investigators<sup>(3,4)</sup> have observed that pine oil disinfectants are effective against other micro-organisms which cause contagious diseases. These disinfectants, however, are ineffective against *Staphylococcus pyogenes*. Pine oil has been found<sup>(5)</sup> to possess definite fungicidal action against organisms causing ring worm (dermatophytes).

## Pine Oil Formulations

The standards set forth in the National Formulary, ninth edition, for a "Pine Oil Emulsion Concentrate N. F. IX," specify that such a concentrate should contain at least 65 per cent by volume of pine oil and no more than 10 per cent by volume of water with a suitable emulsifying agent such as soap, sulfonated oil, etc. After dilution with water, such a preparation is used as a disinfectant and deodorizer in the home and in buildings housing animals.

A typical commercial pine oil disinfectant is formulated with 80 per cent pine oil, 10 per cent potash soap (dry basis) and 10 per cent water. It is used in a diluted solution in the ratio of 1:100. The formula as developed by Hygienic Laboratories, Inc., Chicago, for pine oil disinfectants

has become the pattern for their preparation. This formula is as follows:

Parts by weight	
Pine oil	1000
"I" Wood rosin (acid number — 165)	400
Sodium hydroxide (25% solution)	200
	1600

This product, which is dark red in color, has a phenol coefficient of 3.5 to 4 against *B. Typhosus* according to the official test method of the Food, Drug and Cosmetic Act. This formula can be diluted up to 1:500.

In recent years pine oil disinfectants have been made<sup>(6)</sup> by substituting the rosin soap with a vegetable oil soap. By this substitution, rosin scum will not remain on the cleaned surface and, also, it permits incorporation of larger quantities of pine oil which at the same time increases the phenol coefficient of the product. 60 per cent pine oil may be used with 40 per cent of a 30 per cent coconut oil potash soap<sup>(2,6)</sup>.

The suggested properties<sup>(6)</sup>

Source of pine oil are pine stumps, such as one shown below, removal of which calls for special equipment. Stump is chipped and subjected to steam distillation and fractionation to obtain pine oil.

Photo courtesy Hercules Powder Co., Wilmington, Del.



of a desirable pine oil disinfectant should be as follows:

1. Clear, sparkling, amber colored solution remains homogeneous at any temperature from zero to 100°F.
2. Snow-white emulsions result when mixed with water.
3. Does not burn body tissues or cause dermatitis.
4. Non-corrosive and non-toxic to humans and animals.
5. Does not stain when in dilute solution.
6. Characteristic pine odor should be evident after application.
7. Able to inhibit growth of bacteria causing typhoid, scarlet fever, diphtheria, cholera in the sick room.
8. Free of suspended matter.
9. Can be used as an antiseptic for minor cuts and bruises in the form of a wet dressing.

Pine oil disinfectants are widely used in the home and in public places. In the form of sprays, they are used in stables, in kennels, chicken houses and barns. To achieve maximum dis-

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infection, it is necessary to cover the sprayed object with the disinfectant and permit it to remain in contact for at least five minutes.

In the sanitary products industry, pine oil is used in soaps to improve detergency. It may be formulated into dry-cleaning powders for use on the fur of dogs suffering from skin trouble. Floor scrub soaps may contain three per cent pine oil and sometimes more, which, by its excellent solvency for oils and greases, renders them efficient cleaners for floors covered with linoleum, composition, tile and terrazzo. Pine oil must not be applied to asphalt and rubber coverings. Pine oil is included also in sweeping compounds, and in floor oils used as a thin film for dust suppression on the floor.

Following is a representative formula for a pine oil liquid soap<sup>(7)</sup>.

	Parts
Coconut oil	160.0
Potassium hydroxide (8%)	46.0
Pine oil	40.0
Water	754.0

Pine scrub soaps vary in their composition but generally are composed of about 14 per cent potash soap made from soya or corn oil, about 2.5% pine oil and water to make 100 per cent. A recommended formula as developed by a pine oil manufacturer<sup>(8)</sup> is as follows:

	Parts
Oleic acid (Acid No. 195)	9.28
"T" Wood rosin (Acid No. 165)	9.40
Sodium hydroxide (100%)	2.41
Pine oil	20.00
Trisodium phosphate	4.00
Water	54.91

A scrub soap in powder form has become a familiar product and is widely used<sup>(9)</sup>:

	Parts
Oleic acid (Acid No. 195)	4.64
"T" Wood rosin (Acid No. 165)	4.70
Sodium hydroxide (100%)	1.20
Pine oil	10.00
Water	4.46
Soda ash (58%)	75.00

Many sanitary products contain pine oil merely for its odor.

As little as 20 per cent may be incorporated in such formulas.

Other uses based on the solvent and cleaning action of pine oil are in general purpose cleaners for paint and metal surfaces, woodwork, linoleum, and rugs. As a laundry aid it adds to cleaning, penetrating and wetting action. It is useful in polish formulations for shoes, metals, automobiles, furniture, and floors.

Pine oil is not limited to uses in disinfectants and cleaning preparations. It finds application in such widely diversified areas<sup>(10)(11)(12)(13)(14)(15)</sup> as in ore flotation, in oil and fat-containing emulsions, paints and varnishes, lacquers and spirit varnishes; in grinding of pigments and in holding them in suspension, and in the textile industry.

The properties of pine oil are well adapted to textile processing. Its penetrating and wetting out ability reduces surface tension and interfacial tension between fiber and solution. As a dispersing agent in dyeing, pine oil makes for more even and level deposit of dye. It is of importance in scouring operations where its emulsifying ability keeps in suspension dirt, grease, wax and oil, and insoluble soap precipitates. Not only does it protect fibers against the harshness of soap and alkali but it also prevents rancidity due to its disinfectant property.

An attempt was made to increase the bacteriostatic and bactericidal properties of various household cleaning preparations which contain pine oil as active ingredient. "Pine-Sol"<sup>\*</sup> contains pine oil, soap, isopropyl alcohol and chloro-o-phenylphenol as active ingredients and some inert parts. Water and coumarin derived optical bleach account for 40 per cent of the solution. The above preparation has a phenol coefficient of 5 against *B. typhosus*.

Below, are the bacteriological data on this pine oil prepara-

tion with hexachlorophene, "Vancide"<sup>\*\*</sup> and thiram:

### I. Hexachlorophene

Test organism	Zone of inhibition in millimeters
Staph. aureus	15 x 19
P. ovale No. 1	15 x 15
P. ovale No. 2	12 x 20
M. lanosum	20 x 25
B. coli	12 x 15

### II. Thiram

Test organism	Zone of inhibition in millimeters
Staph. aureus	8 x 10
P. ovale No. 1	7 x 9
P. ovale No. 2	12 x 14
M. lanosum	6 x 8
B. coli	10 x 12

### III. Vancide

Test organism	Zone of inhibition in millimeters
Staph. aureus	6 x 9
P. ovale No. 1	6 x 7
P. ovale No. 2	5 x 7
M. lanosum	5 x 6
B. coli	~ 7 x 9

### IV. Chloro-o-phenylphenol

Test organism	Zone of inhibition in millimeters
Staph. aureus	20 X 31
B. coli	20 X 25
P. ovale No. 1	greater than 36
P. ovale No. 2	greater than 36
M. lanosum	greater than 36

### V. Chloro-o-phenol with 1/2 % hexachlorophene

Test organism	Zone of inhibition in millimeters
Staph. aureus	21 X 32
B. coli	22 X 30
P. ovale No. 1	greater than 36
P. ovale No. 2	greater than 36
M. lanosum	greater than 36

It is evidenced by the above mentioned studies \* that many of the commercial antiseptics are reduced in activity when utilized in sanitizing preparations containing pine oil, soap and alcohol. However, the use of one-half per cent

(Turn to Page 105)

\*Conducted by the Research Testing Laboratories, New York, N. Y.

\*\*R. T. Vanderbilt Co., New York.



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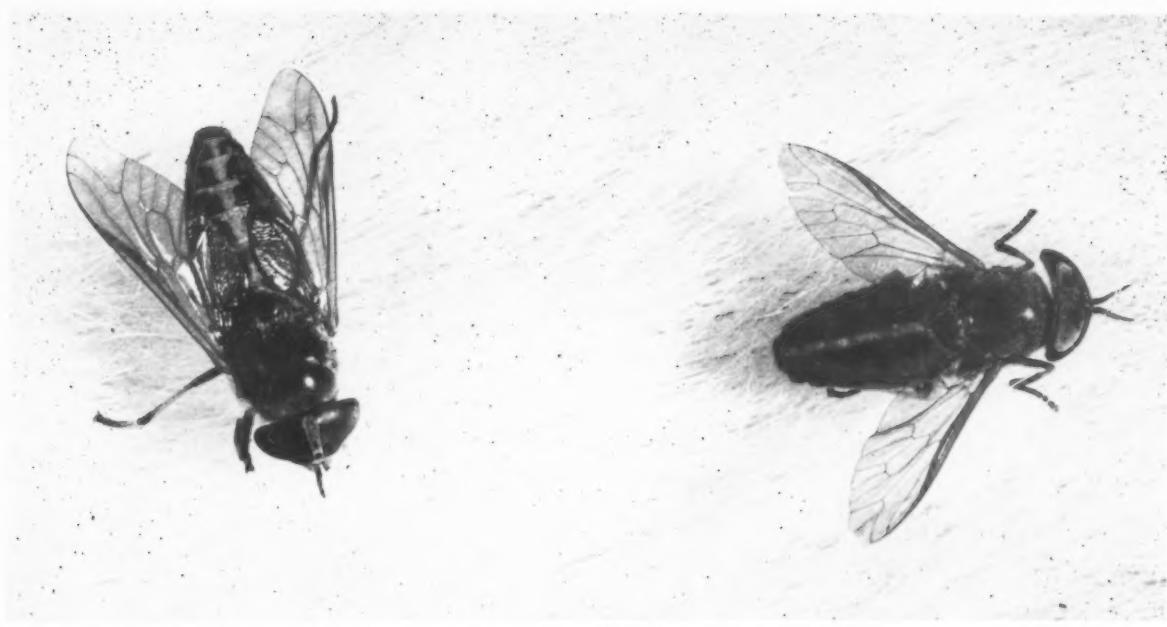
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Close-up of tabanids (horse flies) on warm blooded farm animals. Presence of significant numbers of resistant insects has been reported by entomologists in every state with the exception of Montana and Wyoming.

# INSECT RESISTANCE

## National scope of insect resistance confirmed in first national survey

**I**NSECT resistance, particularly among flies and roaches, to many formerly effective insecticides, has long been known to entomologists and other researchers. In December, 1951, Dr. C. Decker and Dr. W. N. Bruce showed that a gradual resistance buildup to DDT among houseflies in Illinois had been taking place between 1945 and 1949. Subsequent tests, conducted since then, have shown an even greater increase in resistance. By 1951, tests showed 100 per cent resistance in tested fly samples, along with 95 per cent resistance to methoxychlor and approximately 50 per cent resistance to lindane and dieldrin.

Similar research by entomologists in other parts of the country showed comparable results. Resistance of flies to malathion was announced in reports from Savan-

**by John Odeneal**  
Fairfield Chemicals, Food  
Machinery & Chemical Corp.

nah, Ga., Phoenix, Ariz., and Bethesda, Md. In December 1957, G. C. Labrecque of the U. S. Department of Agriculture reported resistance of houseflies to organophosphorus compounds. Flies taken from poultry houses and dairy barns where these compounds had been in use for the previous five years, were found to be far more resistant than were normal flies. The national scope of insect resistance was confirmed in a recent survey made by Fairfield Chemicals, Food Machinery and Chemical Corp. In the light of findings similar to those mentioned above, reported by researchers in different parts of the country, Fairfield undertook the

first nation-wide insect resistance survey. The objective was to determine scope and seriousness, nationally, of resistance to tried and tested insecticides. Approximately 225 entomologists in experimental stations, land-grant colleges and at other posts, including U.S. Army personnel, were contacted. Responses by the 127 who participated in the survey revealed a high percentage of agreement on the following general factors:

- There was a greater general awareness of the resistance problem than had been anticipated.
- Resistance was national in scope (only in Montana and Wyoming were no significant resistance figures reported).
- Resistance was highest to



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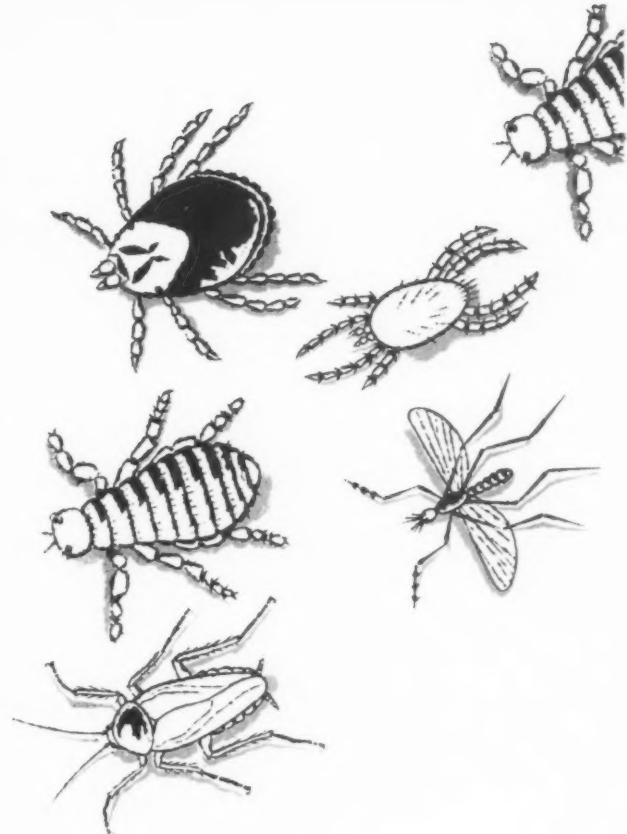
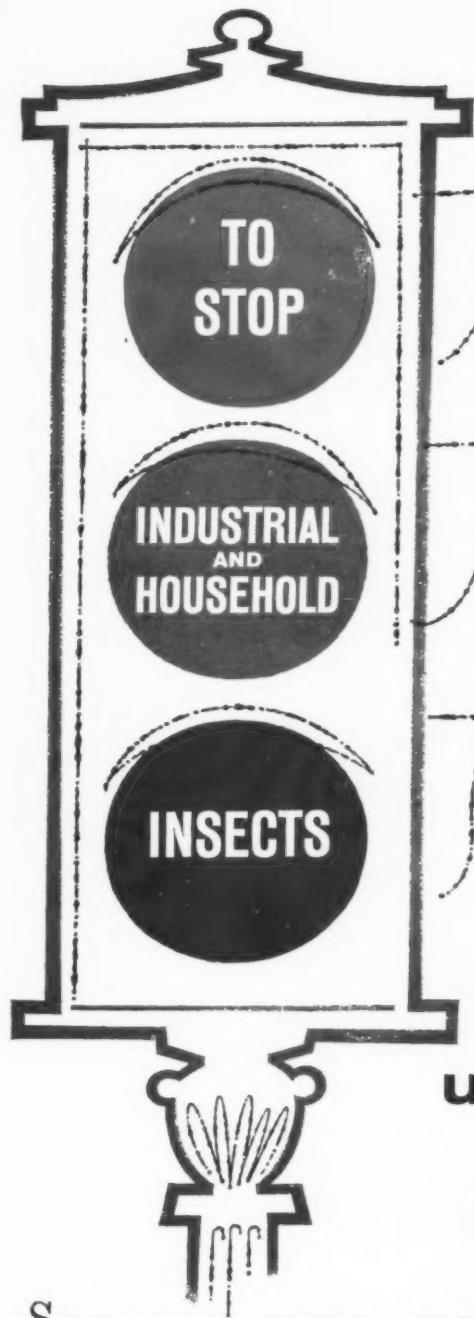
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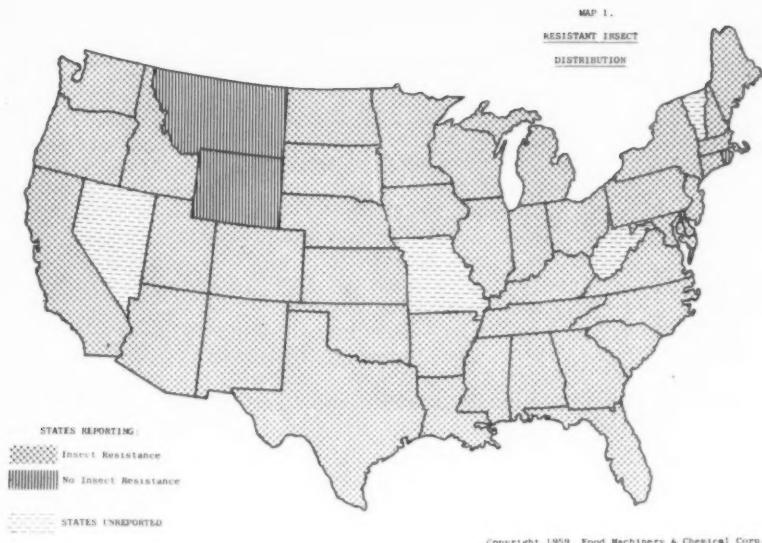
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those insecticides in use the longest.

- Resistance was highest in each succeeding generation of insects.

The extent of insect resistance was made evident by the answer to the first question in the survey: "Have you encountered resistant insects in your state?"

Affirmative answers were received from 85 per cent of the respondents and from 46 of the 48 states polled.

In the second question an attempt was made to determine which insecticides were most frequently found ineffective on wild house flies. The second question was, "Do you feel that resistant insects are specifically resistant to one or more of the following insecticides?" As was anticipated, those compounds in use longest were reported as being least effective insecticidally. In order to stress this fact, the answers have been assembled chronologically from the time of introduction of the toxicant. (See Table I.)

Reports of resistance to chlordane were received from a greater number of states, and particularly those with larger centers of population, than for malathion, which has not been in use as long as chlordane. From this survey, it appears that insect resistance to chlordane is now established, a fact

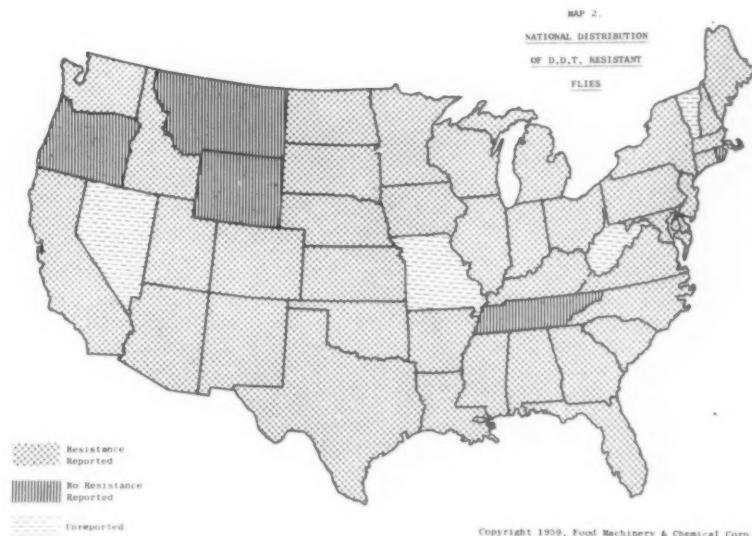
frequently reported by pest control operators.

The third question was,

"Have you encountered any situations where insect resistance was so severe that a change in control methods was required?"

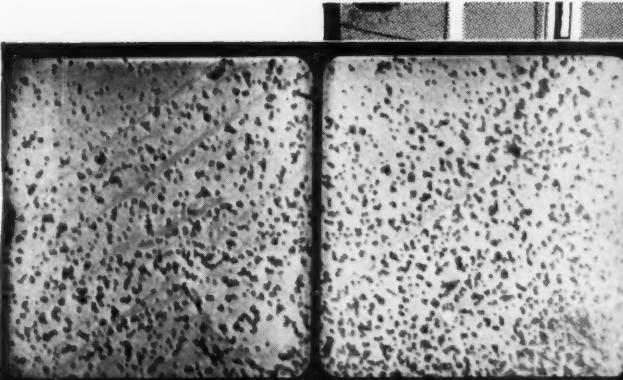
This question was designed to interpret the answers to the first question. To report the presence of resistant insects was one thing, but to determine the severity of the resistance was another. The survey reported that in most states, resistance was strong and widespread enough to require a change in control measures.

Flies-Individual Returns	Yes	72%
	No	2%
	No opinion	26%
By State	Yes	87%
	No	6%
	No opinion	7%
Roaches-Individual Returns	Yes	48%
	No	7%
	No opinion	45%
By State	Yes	67%
	No	17%
	No opinion	16%

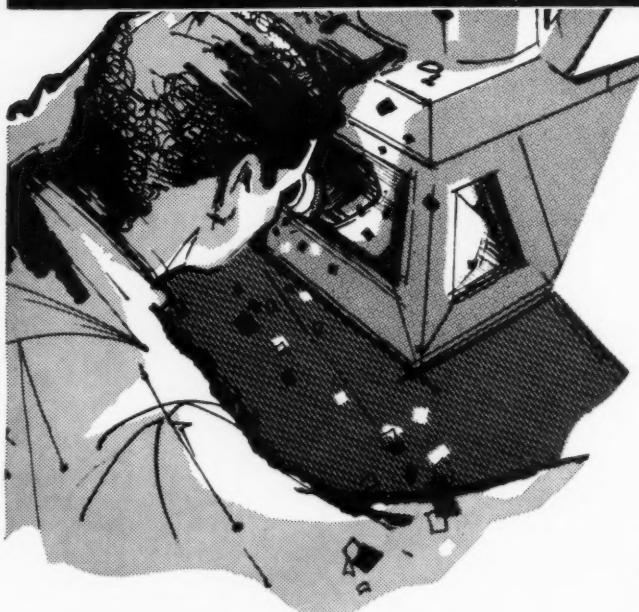


First Year	INSECTICIDE	Individual		By State	
		Flies	Roaches	Flies	Roaches
1943	D.D.T.	70%	33%	93%	48%
1946	Chlordane	38%	47%	70%	68%
1947	Methoxychlor	57%	21%	78%	35%
1947	Lindane	54%	19%	80%	33%
1953	Malathion*	28%	10%	53%	25%
1953	Toxaphene*	21%	7%	45%	18%
1954	Dieldrin	42%	27%	68%	45%
1954	Strobane*	11%	7%	28%	18%
1954	Perthane*	7%	5%	18%	13%
1955	Diazinon	13%	6%	30%	15%

\*Not used widely for housefly and roach control.



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The greater resistance of flies, as compared with roaches, is explained by the fact that house flies complete their life cycle in two weeks, whereas the life span of a roach is a matter of months.

Question 4, "Could you indicate what toxicant was used and what toxicant was substituted in changing controls?", brought a wide variety of answers with little agreement from individual to individual or state to state.

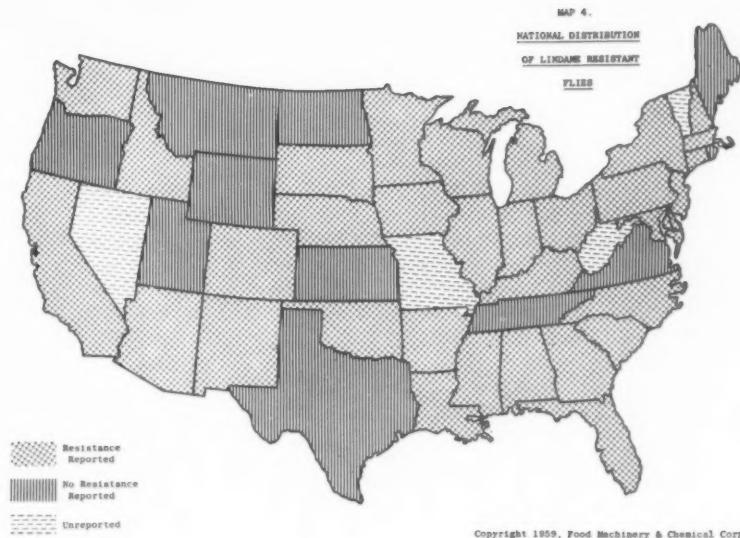
DDT and chlordane, for example, were replaced by a wide variety of newer insecticides. Two or three toxicant changes were frequently reported by a single individual, indicating that new generations of insects had succeeded in building up resistance to the new toxicant. A typical report stated: "DDT to Lindane to Malathion to Diazinon to Pyrethrum." In many cases where these multiple changes took place, there was a typical ending of pyrethrum- or synergized pyrethrum type spray. From recent reports on the performance of pyrethrins and piperonyl butoxide on wild flies, it would appear that this combination is one of the few which achieves control when all else fails.

Question 5 was intended to define the area of greatest concentration of resistant insects: "Where do you feel resistant insects are most frequently encountered?"

The answers to this question appeared to confirm the belief that resistance was greatest in those areas where a compound was most frequently used. Heaviest roach resistance was reported in urban areas, while the greatest concentration of insect resistant flies appeared to be centered in suburbs.

### Conclusions

The survey points up the scope of the resistance and the fact that the entomologist is changing toxicants and adjusting formulations in the hope of achieving at least temporary control. The ultimate solution is, of course, new toxicants, but unfortunately, these take from three to five years to de-



velop. Even here, many compounds reported as "the next insecticide" have already encountered development of some resistance.

At present, one answer appears to be tailoring insecticides for specific situations. Good application methods and carefully balanced formulations can continue to control the resistant insects. Combinations of chlorinated hydrocarbons and organic phosphates as well as pyrethrins and piperonyl butoxide are effective in controlling insects in cases where use of a single toxicant has been found to fail.

Most important, however, the findings of the survey apparently dictate revised thinking on the part of producers, packagers and manufacturers of insecticide products. Resistance is national in scope and according to the laws of biological evolution will continue. As a problem that promises to remain with us, it calls for extensive research by producers to develop new toxicants and revised formulations.

It also means packagers and manufacturers of finished insecticide products must keep up to date. The toxicants in their products must meet present needs. Accordingly, this calls for greater study and investigation on their part. Not only must they keep abreast

of new research developments but must pay close attention to field reports on the effectiveness of their products in resistant areas.

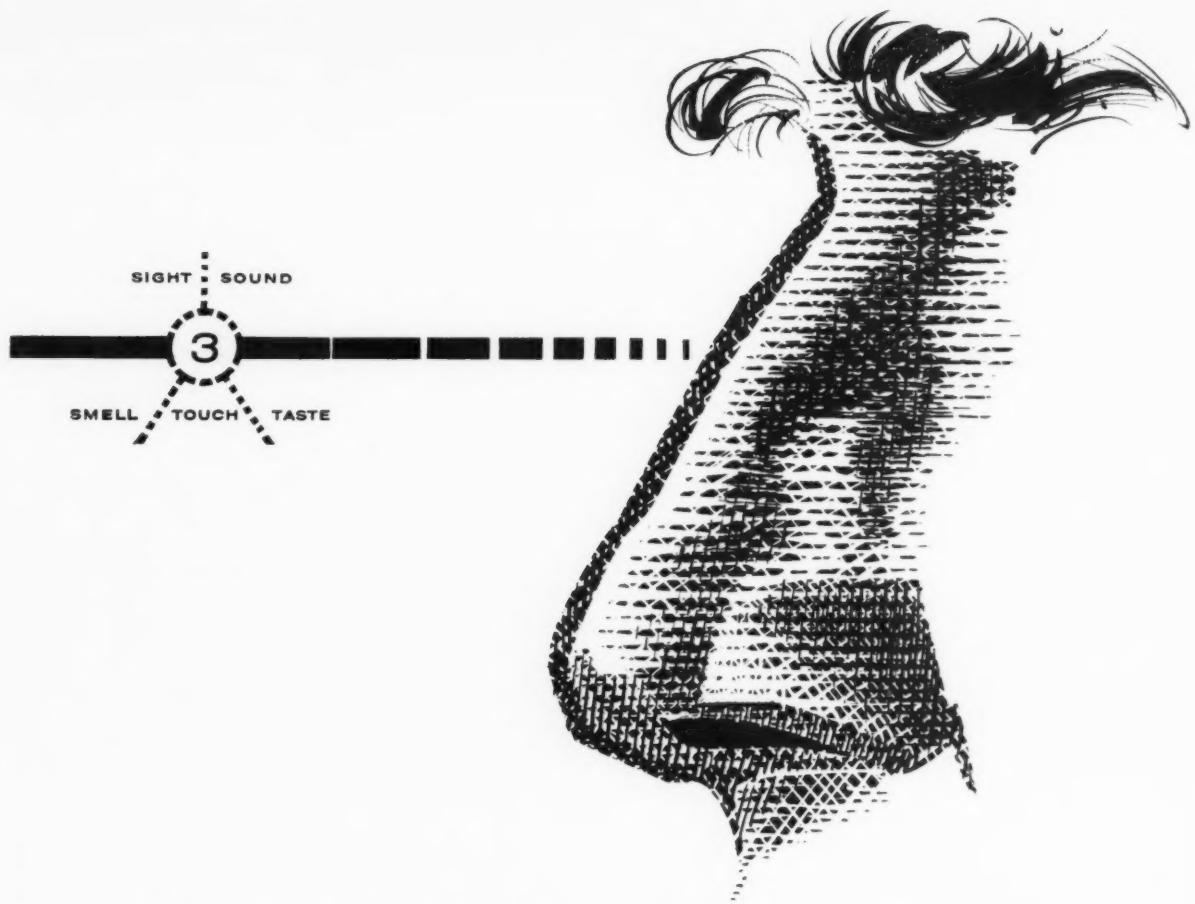
Equally important, manufacturers who sell nationally must make formulations that will be effective in all states. Today, a chlorinated hydrocarbon base insecticide may be effective in Oregon, but of limited value against flies or roaches in Texas.

Formulations, ideally, should thus be tailored to meet the most exacting requirements of the state having the most resistant insect population.

Going one step further, revised formulations should be checked periodically to determine whether a build-up in resistance is reducing the effectiveness of the formulation. If so, formulations should be modified, or reformulated to include toxicants against which little evidence of insect resistance has been shown.★★

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The New England sales office of Dow Chemical Co., Midland, Mich., moved recently to 520 Boylston St., Boston, and features a teletype communications center. In a specially planned office area, the center relays purchase orders to any U.S. Dow plant via the company's private line teletype network.



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# Ortho Which ^ Phosphate to Use?

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**While the chemical action of all orthophosphates on metal hardness ions dissolved in water is basically the same, specific properties are contingent on the phosphoric acid-alkali ratio. The following comments may be helpful in selecting which phosphate will best serve your purpose.**

### MONOSODIUM PHOSPHATE, ANHYDROUS ( $\text{NaH}_2\text{PO}_4$ )

This acid salt reduces the alkalinity of water that has been through a lime-soda treatment and contributes  $\text{P}_2\text{O}_5$  which if maintained in the proper proportion prevents scale formation by (scale forming) impurities not removed by the softener. Ferrous metals, aluminum, brass and copper are effectively cleansed of oil, grease and dirt with MSP. Iron and aluminum are cleaned even without the aid of wetting agents by the formation of hydrogen gas at the metal surface which literally lifts off the contaminant. The light etching of ferrous metals by a solution of monosodium phosphate and water removes rust and provides a temporary iron-phosphate coating which resists corrosion and insures a superior bond when paint is applied. In addition to wide application in pH control, monosodium phosphate is an accepted and proven source of phosphorus in stock feed supplements where more calcium is not needed.

### DI-SODIUM PHOSPHATE, ANHYDROUS ( $\text{Na}_2\text{HPO}_4$ )

Since the pH of neutral solutions is not greatly affected by the addition of disodium phosphate, it is frequently added to boiler water to remove calcium and magnesium salts as non-scale-forming solids. The higher pH value of disodium phosphate makes it less corrosive than MSP. The smooth texture of some process type cheese results from the emulsifying action of DSP. Evaporated milk is made stable by the buffering action of this orthophosphate. Instant puddings are improved by the swelling of milk proteins, and disodium improves appearance and tenderness of processed meat. Generally, this phosphate is indicated where a high strength, mildly alkaline phosphate is required.

### TRISODIUM PHOSPHATE, CRYSTALINE $\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$

The most alkaline of the orthophosphates, TSP is mild in comparison to

other alkalies recommended for such heavy duty cleaning purposes as degreasing, paint cleaners and industrial cleaning compounds. More effective than strong alkalies in many cases TSP combines good water softening power with unusual emulsifying and saponifying ability to make it about the best single product available for general purpose and heavy duty cleaning. TSP is one of the most outstanding casein solvents known and is especially valuable as a dairy cleanser and in the manufacture of casein glues. Widely used in soap and scouring powders, this popular phosphate affords an efficient and economical cleansing action with little corrosive effect except on aluminum and zinc. The addition of sodium silicate inhibits corrosion on these metals.

### DRI-TRI (TRISODIUM PHOSPHATE, ANHYDROUS) $\text{Na}_3\text{PO}_4$

Comparable to regular TSP, DRI-TRI offers advantages, especially to the consumer in lower cost per unit of active material and lower freight. Three pounds of DRI-TRI is equivalent to seven pounds of crystal TSP. Excellent compatibility with other anhydrous salts and lack of free caustic make DRI-TRI desirable in certain instances. The tendency to peptize hardness ions usually flocculated by crystal TSP indicates improved detergency when DRI-TRI is incorporated into a cleaning compound.

### CHLORINATED TRISODIUM PHOSPHATE



The qualities of other forms of trisodium phosphate are also found in chlorinated TSP. However, in addition to the excellent softening and cleaning value of the regular material, chlorinated TSP is a good deodorant, a powerful sanitizer and has extra cleansing ability. Stain removal and better rinsing properties make chlorinated TSP a valuable addition to a wide variety of cleaning compounds.

### PROPERTIES OF SODIUM ORTHOPHOSPHATES (TYPICAL VALUES)

	MONOSODIUM PHOSPHATE $\text{Na H}_2\text{PO}_4$	DISODIUM PHOSPHATE $\text{Na}_2\text{H PO}_4$	TRISODIUM PHOSPHATE $\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$	DRI-TRI (ANHYDROUS TSP) $\text{Na}_3\text{PO}_4$	CHLORINATED TRISODIUM PHOSPHATE $4(\text{Na}_3\text{PO}_4 \cdot 11\text{H}_2\text{O}) \cdot \text{NaOCl}$
Mol. Wgt.	120.0	142.0	380.2	164.0	1,522.5
Typical Assay	99.5%	98.0%	100.7%	—	3.5% Av. Chlorine
Physical Form	Fine Granular	Fine Flake	Crystal, Fine cry.	Powd.-Gran.	Fine Crystal
Phos. Anhy. ( $\text{P}_2\text{O}_5$ )	58.8	49.0	18.8	42.5	18.3
Solubility Range Lbs./Gal. of added Water 20-100°C	6.0 to 19.3	0.53 to 8.6	2.5 to 00	0.9 to 7.2	Freely Soluble
pH of 1% sol'n. (Room Temp.)	4.5	8.9	11.6	11.5	11.5
Grades	Food Proc. Technical	Food Proc. Technical	Food Proc. Technical	Food Proc. Technical	Technical

The chemical action of orthophosphate on many soluble metal ions precipitates a sludge or a mixture of insoluble phosphates. Where such precipitates are undesirable, the use of polyphosphates is indicated. Be sure to see No. 2 of this series or write today for "Phosfacts-Poly."



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# Automotive Chemical Specialties



**A**UTOMOTIVE chemical specialties were once generally thought of as being limited to polishes and cleaners for maintenance and preservation of exterior surfaces. While this might have been true in the days of the "horseless carriage," its meaning has since broadened to include everything except the big volume items such as gasoline, engine lubricants, hydraulic fluid, anti-freeze, etc.

## Cooling System Chemicals

There are four well recognized chemical specialty products being used in automotive cooling systems, namely, antifreezes, cleaners, sealers and corrosion inhibitors.

Those of you who have followed the activities of the Automotive Division of C.S.M.A. have been kept up to date on the latest developments in the antifreeze field. Therefore, I shall not discuss this class of radiator chemical other than to mention that increased interest is being shown in development of improved inhibitor systems for glycol blends. Instead, I'd like to direct your attention to current developments of the other cooling system additives.

Radiator failure can range from leaks, which will be discussed

**By Bernard Berkeley\***

Foster D. Snell, Inc.  
New York

separately, to steaming and overheating of the liquid for menstruum in the cooling system. The major contributing cause of overheating is poor circulation due primarily to accumulation of rust particles. Other contributing, although less important factors, are the presence of oil and grease contaminants and scale build-up.

Hard water is not the problem it once was when the volume of coolant was smaller and the heat transfer efficiency of radiator cores was lower. Under those conditions, frequent replacement of water lost by evaporation was not only a nuisance but also resulted in buildup of a hard water scale.

## Acid-Type Cleaners

Acid-type cleaners have been on the market and in use for more than 25 years. During the past 10 or 15 years they have been preferred over alkaline cleaners. Various solid acids and acid salts have been used over the years as cooling system cleaners. However, oxalic acid has become the most popular material during the past five or more years because it is faster acting; it also can be packaged safely in paperboard containers. Former-

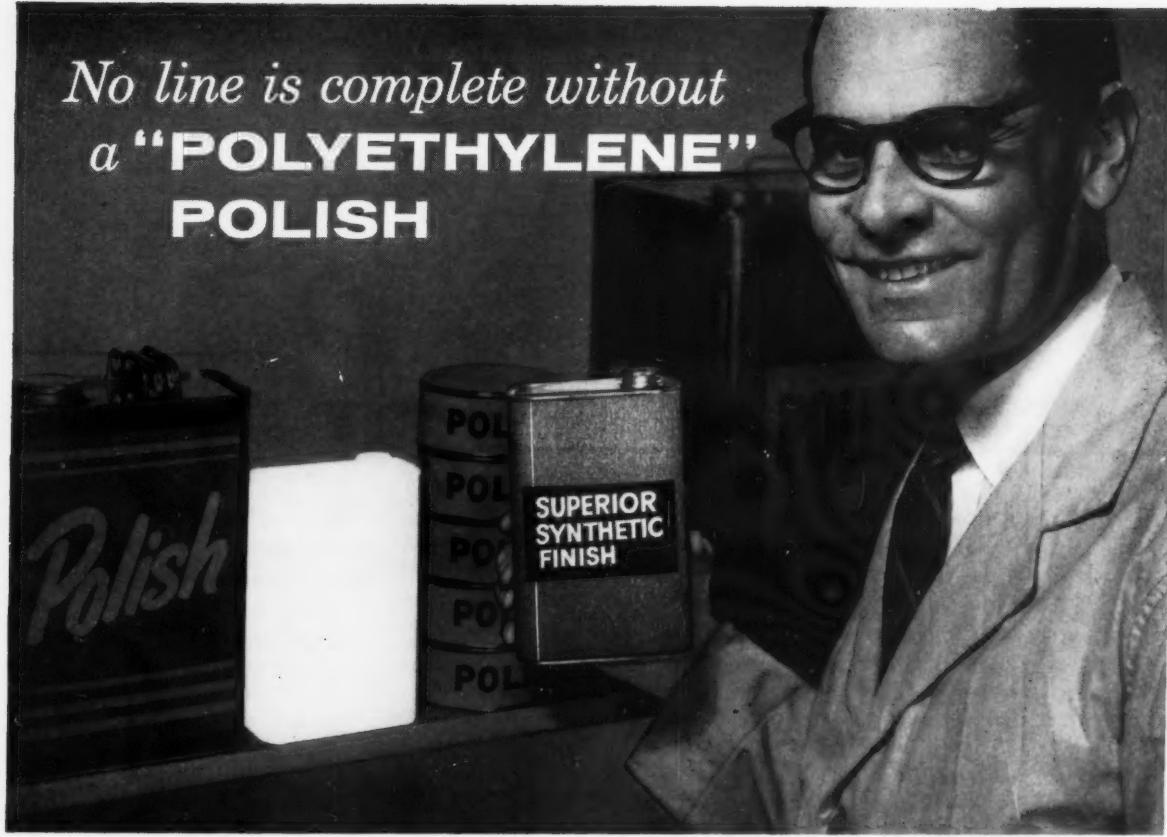
ly, sodium bisulfate and mixtures of bisulfate and sodium chloride were largely used because of cost. These materials are effective, although not the equal of oxalic in the rapid removal of rust.

All acid-type cleaners are packaged as two components: the cleaner and the neutralizer. It is now standard practice to put this product up in a dual can or dual paperboard container, with the smaller container on the bottom serving to hold the neutralizer. The exact amount of neutralizer furnished depends on the strength of the acid and the type of alkali used. Sodium carbonate, either in the form of soda ash or as monohydrate, is the preferred and generally used neutralizer.

During the years, we have seen many formula variations tried with varying degrees of commercial success. These have included a gamut of additives to both the acid and the neutralizer to improve wetting, increase speed of action, reduce attack on metals, aid particle suspension and prevent frothing. The variety of these additives assures us that the field will not stagnate for lack of ideas. The successful marketing of strong acid solutions in the building maintenance field is sure to suggest their application as automotive cleaners. The advantage that a liquid could offer, aside from simplified use, is

\*Paper presented during 45th annual meeting, Chemical Specialties Manufacturers Association, New York, Dec. 10, 1958.

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the potential incorporation of a solvent to enable the acid to contact the surface more readily and effectively.

Also, there is the general sensitivity that has developed about products such as oxalic acid, which are clearly considered to be economic poisons. The ever present thought of having to defend a known poison in a court of law as a result of an accident or even misuse must give compounders some uneasy moments.

### **Alkaline Type Cleaners**

Prior to World War II, the alkaline flushes, as they were called, dominated the field. There was general reluctance on the part of automobile owners to use acid-type cleaners, and the car operator himself cleaned the cooling system periodically. When, and if, the cooling system became very badly fouled and boiled over, the car would be taken to a service station for reverse flushing and for application of an acid-type product. It is believed that currently, the majority of car owners do not maintain the cooling system, but rather rely upon service stations to do this in the fall and spring. This change of trend in consumer habits may account for the loss of prestige of alkaline-type cleaners.

Practically all of the highly alkaline salts have been used for the purpose. Liquid products were once popular and contained anywhere from five to eight per cent of trisodium phosphate to an almost saturated solution of this salt. Combinations of trisodium phosphate and sodium metasilicate in the maximum allowable concentrations in solution were very common. The equivalent mixtures were also sold in granular or powdered form. It was common to designate a liquid cleaner as a radiator flush and a powdered compound as a cleaner.

A few years ago, at a CSMA meeting, it was predicted that the use of organic sequesterants such as E.D.T.A. would be a serious contender in this field. To date, the

prediction has failed to materialize despite some trial balloons in this direction.

A resurgence of liquid alkaline cleaners may be in the offing, however, if we can give credit to the recent appearance on the market of silicate of soda solutions containing chromate inhibitors. Such a combination is currently being offered by one of the leading manufacturers of automotive specialties. We suspect that the increased use of aluminum in the cooling system provided the motivation for use of silicate solutions.

### **Cooling System Sealers**

Ideally, a stop leak compound should contain materials which will quickly and permanently seal leaks and have no deleterious effect on any of the component parts of the cooling system. Nor should it interfere with the normal circulation of coolant through the system. The practical mechanics of plugging holes in a radiator system is roughly similar to the process used by caisson workers to stop blow holes. First, a matrix or webbing is formed across the hole and then the interstices are filled by fine particles or by a layering effect. It is the general rule, therefore, that radiator repair compounds, whether liquid or powder, will contain some plugging agents which are small enough to circulate readily through the radiator core and which will be drawn to the point of leakage. Over the years, we have seen so many different materials used to stop leaks that it would take a good part of this paper just to enumerate them. The most popular types, however, appear to be fibrous water-insoluble ingredients such as: flaxseed meal, asbestos fibers, paper pulp and various flocks. We also know that starch granules, sawdust and wood flour are commonly used.

Some products contain, in addition to the plugging agent, a film forming ingredient whose purpose is to cement the inert particles in place at the site of the leak. Included among the materials used

in this connection are the silicates, cellulosic gums, lignosulfonates, dextrans, etc.

The past few years have seen some changes which affected the development of stop leak products. The two most important ones involve changes in radiator design. The adoption of pressure radiator systems, capable of building up to 12 to 15 pounds, as in the case of the higher priced cars, aggravates the problem of stopping leaks. As a result of studies conducted in our laboratory, we know that some products which perform satisfactorily in radiators operated at normal atmospheric pressure, will fail to stop leaks at the elevated pressure.

The other mechanical change involves a cooling system with reduced tube sizes in the radiator and heating core. This new design has been in use by at least one of the major auto manufacturers since 1957. According to one report we have heard, the only way that the new cores can be cleaned out is by chemical or pressure methods. The size and shape precludes the use of mechanical methods of rodding out the individual tubes. In addition to having reduced clearances, the heater core tubes have little serrations formed on the inner edges which act as baffles. The core tubes themselves are believed to be as small as 0.023" in spots.

Obviously, this particular changeover in design could spell trouble if stop leaks contain rigid plugging agents which approach the limited size of the core tubes.

A third factor influencing manufacture of stop leaks is the increasing use of glycol-type antifreeze. The higher cost of permanent, over volatile type, antifreeze makes it desirable to add stop leak each winter as protection against loss of antifreeze by leakage. While it is a common practice to check out the effectiveness of a radiator repair product with antifreeze for immediate leak stopping ability, I doubt that as much attention is paid to the plasticizing effect that



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glycols have on the binding agent. It would not be surprising to find that many of the usual binding agents are ineffectual because they are too soft or too soluble in the presence of glycol solutions.

### Corrosion Inhibitors

Automotive cooling systems contain all the major elements necessary to accelerate the corrosive effects of water on metals. There are dissimilar metals connected by an aqueous medium capable of transporting electrons; in some cases bi-metallic contacts of metals exist which are widely separated in the electromotive series. There is the factor of variations in liquid temperature; the coolant is in contact with air; stray electrical currents exist in the engine block; and the metals are subjected to stress and vibrations from the motor and the chassis. It is little wonder, then,

that the cooling system metals corrode as rapidly as they do, unless protected by inhibitors.

Automotive corrosion inhibitors can be classified into the following groups:

1. Emulsion type compounds
2. Chromate solutions
3. Miscellaneous inhibitors

#### Emulsion Type Compounds

These compounds consist of emulsions of light oil and water, with petroleum or mahogany sulfonates as the emulsifying agent. The latter is usually a mixture of approximately 60 to 90 per cent petroleum sulfonate, free mineral oil, water and sometimes additional emulsifying agents such as amine or alkali soaps. The petroleum sulfonates are generally recognized as corrosion inhibitors. They are also used extensively in antifreeze prod-

ucts, in boiler and heating systems and in all-purpose rust preventive compounds.

The action of these petroleum oil emulsions in cooling systems is two-fold. First, upon dilution and heating of the emulsion in the cooling system, the oil and petroleum sulfonate is at least partially exhausted from the emulsion, and deposited on the internal surfaces of the system. Further, the highly polar petroleum sulfonates are adsorbed on the metal surfaces in a fairly uniform thickness. The thin protective film of inhibitor and oil reduces the corrosion of the metal parts by exclusion of air and the circulating water.

Second, rust, dirt and grease particles form agglomerates and become bound to the walls of the system or collect in pockets or restricted passages. The petroleum sulfonate causes the grease or oil holding the rust and dirt particles together to be wetted and dispersed. Where the rust accumulations are not excessive, the car can be operated without draining and the particles are kept in stable suspension.

#### Chromate Corrosion Inhibitors

Soluble chromates inhibit corrosion through the formation of a thin passivating film on the surface of any ferrous metal exposed to the solutions. The usual recommended dosage of chromate is of a low order (250-500 parts per million) for salt free water. Once a passive state has been established, smaller concentrations of chromate are needed. The circulating water must not be acid in character, and the concentration of dissolved salts should be less than 1000 parts per million (0.1%) for most effective use.

Assuming the average cooling system capacity for a passenger automobile is 22 quarts, between five and 10 grams of chromate would be required for protection. Therefore, four ounces of a solution containing 10 per cent chromate will provide about 11 grams, and the same amount of a 15 per

Some idea of the growth and complexity of the automotive chemical specialties business may be gleaned from this display of products being produced under private label for leading retail marketers by Bell Company, Chicago.



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cent solution provides 17 grams. One ounce of solid chromate provides a liberal margin of safety and most commercial inhibitors do allow such a margin.

A potential drawback to the use of chromates is their oxidizing effect on organic materials. It is for this reason that chromates are not recommended for use with alcohol or glycol antifreeze. Manufacturers should include directions to the effect that engines treated with chromate should be drained and flushed prior to introducing antifreeze solutions.

#### Miscellaneous Inhibitors

There are numerous patents covering specific materials, and especially combinations of substances, said to be effective in inhibiting corrosion in automotive cooling systems. A great many of these patents cover combinations of the inhibitors in alcohol and glycol-type antifreeze solutions. For many years, and especially during the last 20 years, several salts and combinations of salts and other substances, have proven effective under practical conditions of use. The most popular inhibitors which have been used for years by the major producers of antifreeze preparations with effective results are as follows:

1. Mercaptobenzothiazole and its sodium salt.
2. Salts of alkylamines. Triethanolamine phosphate is specified as an inhibitor in military specifications for glycol antifreeze.
3. Sodium nitrite and multiple combinations.
4. Borax and multiple combinations.
5. Sodium chromate and multiple combinations.
6. Sodium benzoate and combinations.

Sodium benzoate listed above has been used principally by the British since World War II.

Future demands on corrosion inhibitors depend to a large extent on the decisions of automotive engineers, with regard to

the physical designs and types of engines to be used. The talk today indicates that aluminum will play an increasingly important role in automobiles. Certainly also, we will want to think about the possible trend to air-cooled engines in smaller cars.

#### Body Cleaners and Polishes

The fact that auto body cleaners and polishes are still being successfully marketed in a myriad of types indicates the need for a variety of specialized compounds. By way of illustration of the different forms, it is only necessary to point to the oil emulsion polishes, dressings or wash creams, abrasive cleaner polishes, silicone-abrasive cleaner-polishes, liquid and paste prewax cleaners, silicone-wax-solvent polishes, paste waxes, machine buffering cleaners, etc.

Consider the example of one such specialized product, the non-abrasive emulsion polish. This compound is intended for use as a follow-up to abrasive rubbing compounds. They not only remove unsightly abrasive residues but also provide a temporary brilliant surface gloss. Additionally, their simple and ready dilution with water suggests that they would fit in well with the "instant car wash" services. It should be possible to apply emulsion polish to an auto surface almost immediately after rinsing and instead of the usual wipe-down operation.

Combination cleaner-polishes are still the backbone of most polish lines. Historically their compositions contain mild abrasives to remove mechanically superficial layers of finish, and mineral oils to impart luster. A typical composition for these products is shown below:

	Parts by weight
Light mineral oil	15.0
Emulsifier	0.4
Protective colloid	0.5
Glycerine	3.5
Preservative	0.1
Abrasive	12.0
Water	68.5

Modern variations include waxes and resins to yield more durable finishes and partial replacement of the mineral oil with solvent and vegetable oils. The preferred abrasives for general purpose use are selected from among the available grades of natural and calcined diatomaceous earths. Materials with more "bite," such as tripoli and amorphous silica, are widely used in combination with the earths in pre-wax cleaners and for heavy-duty applications.

The techniques of combining these ingredients in an aqueous base to form stable polishes are still more art than science. Therefore, whenever a product is developed which meets with general success, the manufacturer is loath to make even minor changes in procedure or ingredients, for fear of altering either stability or application properties.

Since the late forties, the most significant trend in auto polish development has been towards easier application. If any one factor can be credited for the advances in this direction, it is the introduction of silicones.

By the early forties, almost every polish manufacturer either had a silicone-containing product or was investigating such a composition.

At the outset of their application, many variations in formula were attempted in order to capitalize on their chief advantages, viz., lubricity, inertness and low volatility. Composition-wise, it was found best to emulsify the silicones with amine soaps, replace the mineral oils with silicone solvents and to hold to a minimum all other non-volatile water-soluble ingredients. The first products that were offered to the public were the cleaner-polish combinations and solvent-silicone-wax systems. The latter formations appeared at the time to be the first successful non-laborious method for hand application of protective films of wax. Unfortunately, it was found that proper preparation of the surface was critical in order to obtain final

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polish films which were uniform and mar-resistant. In the search for easy-to-use polishes, the public favored the combination products typified by the example below.

The promise of success initially shown by silicone-wax-solvent systems was fulfilled by the development of a unique silicone-wax paste product which incorporated abrasives. This paste form of cleaner-polish was the first real challenge to the popular and established two-package product consisting of pre-wax cleaner and paste wax. Today, there are at least a dozen well-known polish manufacturers who merchandise paste compounds based on silicones.

**Typical Paste Formulas**  
**Silicone Oil — Wax —**  
**Abrasive Systems**

	% by Wt.			
	A	B	C	D
Silicone Oil	10.0	5.0	5.0	2.0
Waxes	10.0	12.0	18.0	26.0
Abrasives	8.0	20.0	17.5	13.0
Solvents	72.0	63.0	58.0	59.0
Water			15	

Last summer saw the introduction on the national scene of aerosol-dispensed auto polish. Since the novelty of application appears to have had a favorable consumer reaction, it is probable that the number of brands will increase this coming year. However, only time will tell whether this form will be popular enough to persist in the public's favor.

Future developments by

auto polish manufacturers are somewhat uncertain because of the introduction of new automobile finishes. Through C.S.M.A., we have been aware for some time that acrylics were being investigated as a replacement for the cellulose-type finish. However, this year marks the first wide-spread use of new finishes by the major auto manufacturers. General Motors has adopted an acrylic lacquer for all its '59 models; Chrysler and Ford are going along with melamine-type enamels. Since the major claims being made for these finishes are increased durability of gloss and color, we anticipate that polish manufacturers will have to come up with new product ideas to compensate for possible future decreases in polish sales. Our crystal ball says that greater emphasis will be placed on car washing compounds; non-abrasive cream oil polishes; surface degreasers based on non-aromatic solvents, anti-static agents, and special abrasive polishes for plastics.

We would not be at all surprised to see a renewed interest in the silicone-wax-solvent systems.

**Chrome Polishes**

Polishing of chrome-plated bumpers and trim is not generally required unless the plating is worn off or ruptured. When this occurs, we are no longer dealing with chromium but with the rusted base metal:

A true restoration of the surface can not be accomplished by any method short of replating. The

best that can be done is to strip off the offending rust or where nodules or tubercles exist to abrade them flush with the surface.

(To be concluded)

— ★ —  
**New D&O Price Catalog**

Dodge and Olcott, Inc., New York, has published the April, 1959 edition of its price catalog of essential oils, aromatic chemicals and specialties, perfume and flavor bases, and certified colors. Copies of the 36-page catalog are available from D&O at 180 Varick St., New York 14.

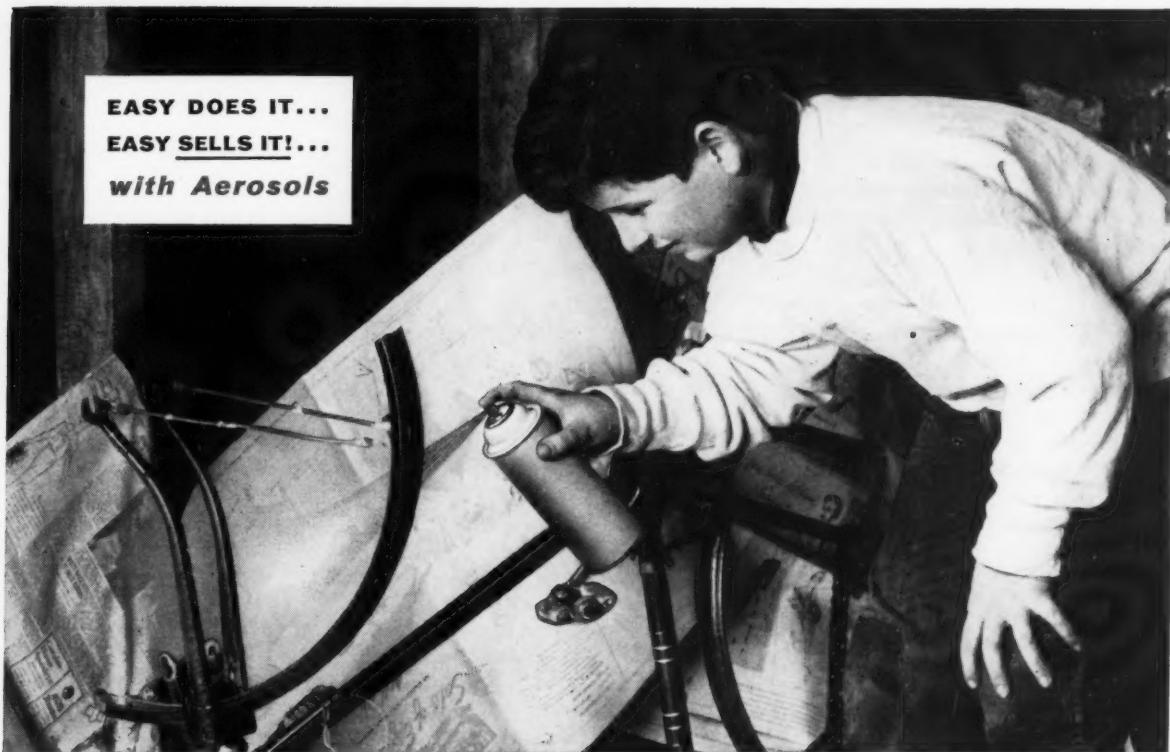
— ★ —  
**New Monsanto Booklet**

The inorganic chemicals division of Monsanto Chemical Co., St. Louis, recently published a technical bulletin about the use of its "Syton P" (colloidal silica solution) as an anti-slip and anti-soil coating on bag and paperboard carton surfaces. In addition to a description of the physical and chemical properties of the product the bulletin lists details as to application by both spray and roll methods, recommended solutions, methods of measuring applications and general handling information. Free copies may be obtained from the division, 800 North Lindbergh Blvd., St. Louis 66.

— ★ —  
**Correction**

Like the "slightly exaggerated" report of Mark Twain's death, our crediting Carl and Mrs. Durant with being the parents of four children in the March issue of *Soap & Chemical Specialties* was premature, to say the least. The confusion arose over a slightly cryptic note we had made when interviewing Carl for the article, "Canada's Largest Aerosol Loader," which was published in *Soap* last month. Actually, Carl told us there were four children (Carl's brother and sisters) in his family. Since Carl is taking a good bit of ribbing about our faux pas, we hasten to set the record straight. To the Durants of Canada — our most abject apologies.

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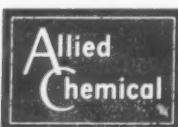
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## CSMA Midyear Meeting Program

**A**N address, "Pattern for Success," by James Q. du Pont, administrative assistant in the public relations department of E. I. du Pont de Nemours & Co., Wilmington, Del., will be one of the highlights of the program for the 45th midyear meeting of the Chemical Specialties Manufacturers Assn., it was announced early this month by H. W. Hamilton, secretary. CSMA will meet at the Drake Hotel, Chicago, Monday, Tuesday and Wednesday, May 18, 19 and 20. Mr. du Pont is scheduled to address the first group luncheon on Tuesday, May 19.

The luncheon speaker on Wednesday, May 20, will be William C. Stolk, president of American Can Co., New York. The topic of Mr. Stolk's talk has not been set as yet.

To date, the program for the 45th midyear CSMA meeting has emerged in outline only. Monday, May 18, will be devoted entirely to meetings of the board of governors of CSMA and of committees and sub-committees of the six divisions composing the association. The meeting formally gets under way Tuesday morning, May 19, when the following four divisions of CSMA meet in concurrent sessions: Automotive; Insecticide; Soap, Detergents and Sanitary Chemical Products; and Waxes and Floor Finishes.

The Tuesday, May 18, luncheon will be followed by the first and only session of the Aerosol Division, and a concurrent meeting of the Disinfectant and Sanitizers Division. The afternoon's program concludes with the showing of company motion pictures.

Tuesday evening has been set aside for the "Open House" period in suites of member companies from 5:00 p.m. until 9:00 p.m.

The only general session of the meeting, on Wednesday morning, May 20, opens with an address

of welcome by CSMA president, Donald M. King, head of Masury-Young Co., Boston. Reports of other officers of CSMA to be presented at this session include those of H. W. Hamilton, secretary; Peter C. Reilly, Jr., Reilly Tar & Chemical Co., Indianapolis, treasurer, and John D. Conner, Cummings, Sellers, Reeves & Conner, Washington, D. C., legal counsel for the association. Two other talks are scheduled for the general session, one by John K. Langum, economic consultant, Chicago, and another by a speaker from Union Carbide Chemicals Co.

Divisional meetings resume during the final afternoon of the meeting, Wednesday, May 20. At that time two divisions meet separately and two divisions meet jointly. Separate sessions will be held by the Automotive Division and the Disinfectant and Sanitizers Division. The Soap, Detergents and Sanitary Chemical Products Division and the Waxes and Floor Finishes Division hold a joint session.

The final scheduled event of the 45th midyear meeting is the cocktail party and banquet, with floor show, set for Wednesday evening, May 20.

During the midyear meeting, too, chairmen, vice-chairmen and members of the administrative committees of the six CSMA divisions are elected. They take office following the annual meeting next December.

Topics tentatively scheduled to be discussed at divisional meetings on Tuesday morning, May 19, include hazardous chemicals by a panel during a session of the Automotive Division. Herbert P. Plank, Chief of the Drug Division of the state of Connecticut's Food & Drug Commission, has agreed to participate. Another feature of the program of the Automotive Division is a paper, "Present and Future Aerosol Automotive Specialties," by

William Moonan, Sprayon Products, Inc., Cleveland.

The only meeting of the Insecticide Division will be held Tuesday morning, May 18. In addition to the results of the insecticide products survey, which will be presented by Joseph E. Lee of McLaughlin Gormley King Co., Minneapolis, another highlight of the session will be a symposium on fly control. Harry L. Haynes of National Carbon Co., New York, will act as moderator. Other participants will include: Ellsworth Fisher, Department of Entomology, University of Wisconsin; D. E. Howell, Department of Entomology, Oklahoma State University, and W. C. McDuffie, Agricultural Research Service, Entomology Research Division, U.S. Department of Agriculture, Beltsville, Md.

Lawrence B. Hall, Communicable Disease Center, U. S. Public Health Service, Savannah, will present a paper on "Specifications and Sprayers."

A short business meeting of the Insecticide Division will precede the discussion portion of the program. During this period, John A. Rodda, Fairfield Chemical Division, Food Machinery & Chemical Corp., New York, will present his report as division chairman.

Two symposia, one on staphylococcal disease and the other dealing with "In Place Cleaning in the Dairy Industry," are scheduled for presentation during the Tuesday morning meeting of the Soap, Detergents and Sanitary Chemical Products Division.

A paper dealing with "The Role of Plasticizers in Polymer Floor Finishes," by N. A. Naidus, H. Merken and H. M. Szczepanik of Polyvinyl Chemicals, Inc., Peabody, Mass., is slated to be read during the session of the Waxes and Floor Finishes Division, Tuesday morning, May 19. Two other presentations to be given at this session include: "A Study of Factors Affecting Gloss of Floor Finishes," by Daniel Schoenholz, Foster D.

Snell, Inc., New York, and "The Effect of Emulsion Polymers in Floor Polishes," by B. D. Halpern of Borden Chemical Co., Philadelphia, and R. H. Perry of UBS Chemical Corp., Cambridge, Mass.

The joint session of the Waxes and Floor Finishes Division and the Soap, Detergents and Sanitary Chemical Products Division, scheduled for Wednesday afternoon, May 20, will hear a panel made up of five representatives of flooring manufacturers. They will discuss properties of all of the most widely used types of flooring materials and effects of maintenance chemicals and methods on them.

The highlight of the meeting of the Aerosol Division, Tuesday afternoon, May 19, of course, will be the long awaited results of the 1958 aerosol survey. The 1958 aerosol sales figures will be revealed by Frederick G. Lodes, Lodes Aerosol Consultants, Inc., New York, chairman of the aerosol publicity committee. Other subjects scheduled to be covered during the single

session of the Aerosol Division include "Food Aerosol Propellants," by Frank Blodgett of E. I. du Pont de Nemours & Co., Wilmington, Del.; "Methods for Determining Presence in the Air of Hair Lacquer Particles," by R. A. Fulton, Agricultural Research Service, Entomology Research Branch, U. S. Department of Agriculture, Beltsville, Md.; "The Use of a Seviers Extrusion Rheometer for Predicting the Behavior of Fluids in Pressurized Cans," by J. S. Wolff of B. F. Goodrich Chemical Co., Akron, O., and "Blending of Different Propellants," by E. E. Husted, Union Carbide Chemicals Co., New York. In addition, the Aerosol Division will hear the report of its chairman, E. J. McKernan, Seaquist Manufacturing Co., Cary, Ill.

—★—

#### Gefen Visits Felton Plant

Leon Gefen, manager of the Versailles, France, plant of Felton Chemical Co., Brooklyn, N. Y., recently returned to France after

spending about three weeks at the company's headquarters in Brooklyn. In commenting on conditions in Europe, Mr. Gefen noted that a record volume was expected for his company in 1959.

#### Fatty Acid . . .

(From Page 52)

properties. Like the alkanolamides, these materials have good compatibility with both soaps and anionic detergents; they have foam stabilizing properties and are usually good anti-corrosives. Combinations of sodium lauroyl sarcosinate with lauryl sulfate are finding increased usage in cosmetic shampoos and in upholstery and rug shampoos; these formulations are especially suitable for aerosol packaging. Of interest also are the anti-corrosive properties of the acyl sarcosine acids and their combinations with high molecular weight amines; these oil soluble compounds are being used increasingly in petroleum products.

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under evaluation include stearoyl glycine, a very high melting carboxylic acid (125°C), and lauroyl iminodiacetic acid, a dibasic acid with outstanding anti-corrosion properties. These products are not inexpensive but the technological and consumer demands of our society are sufficiently varied and urgent to assure some sort of market for these products. Above all, they represent the continuing confidence of at least one chemical manufacturer in the value of fatty acids as chemical raw materials.★

#### Premiums

(From Page 50)

The food industry has made giant strides forward in the past few years. Some chains have done better than others; some independents have gone ahead faster than others. A study of the retail stores which have made the greatest progress in selling food products will show that they are stores which belong to organizations and associations in which ideas, promotions and modern selling methods and techniques are discussed. We believe more of this interchange of ideas is needed in the premium industry. It is big business. Its members are part of a very reputable industry. Premium sellers are dealing with reputable people in other major industries. It is our observation that the surface hasn't even been scratched yet in the use of premiums in the marketing of nationally advertised products. As big as the premium business is, we feel it can grow even more if the elements of exploration and counsel are brought into play.

There have been many, many premium promotions with all types of manufacturers in past years, but you can count on your fingers the premium promotions that have really been successful—outstandingly successful. These weren't hit-or-miss operations; they were promotions in which there was good planning on the parts of the premium distributor or salesman, working closely with

the premium buyer and his marketing organization. It is our feeling that through the establishment of—or further utilization of—premium marketing seminars, forums, group discussions, etc., the mutual problems of the premium seller and buyer can be resolved. Further exploration of each other's thinking can be accomplished in this way. Working together, the premium seller and buyer can share each other's ideas and de-

velop the latent or active creative thinking and ability that each possesses. We need more of this!★

#### Letters

(From Page 43)

Levin who lived in Miami for a few years some time ago.

The man he is being confused with is Robert B. Levin, who has lived in Miami since 1925 and who has been president of Standard

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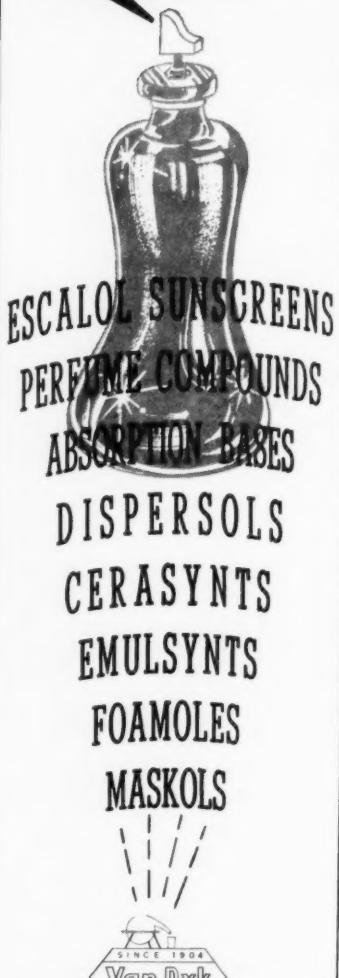
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Belleville, New Jersey

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Chemical Company and executive vice-president of The Tripure Water Company since 1946.

A number of friends of Robert B. Levin apparently felt that he was the one who had disposed of his business and gone to work with Fuld. This is not true. Robert B. is still at the same old stand and plans to stay here a long time. I can speak with authority on this since I am

Yours very truly,  
Robert B. Levin,  
Standard Chemical Co.  
Miami, Fla.

P.S. If you think it is confusing now, you should have seen it when Robert H. was associated with me here in Miami!

### Calgon Correction

Editor:

I noted in the March issue of *Soap & Chemical Specialties* ("Tale Ends," page 90) the reference to the Calgon rinse as a pre-treatment for dyeing the hair.

Many thanks for the plug. One correction, though, Calgon water conditioner is powder form sodium hexametaphosphate and not a metasilicate softener.

But thanks for your interest.  
Dave Treganowan,  
Public Relations Manager,  
Calgon Co.  
Pittsburgh, Pa.

### Aerosol Moisture (From Page 73)

Kahn and Co.  
541 Windsor St.  
P. O. Box 516  
Hartford 1, Conn.

The C. M. Kemp Mfg. Co.  
Yocum & Goode, Inc.  
420 Lexington Ave.  
New York 17, N. Y.

National Tank Co.  
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Refined

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### Pine Oil Sanitizers

(From Page 79)

of hexachlorophene demonstrates bacteriostatic properties against *B. coli* which bacterial organism is isolated in the bathroom, nursery, hospital, and in human and animal stools.

The enhanced pine oil formulation also demonstrates excellent fungicidal properties using *Microsporum* as the fungus test organism. The same improved preparation demonstrates bactericidal properties against *Staphylococcus aureus* which is a bacterial pathogen commonly present in the house, particularly on floors, rugs, and furniture, on the body of humans, and in common household objects and toys.

Interestingly enough, the same synergistic formulation demonstrates bacteriostatic effect against the *Pityrosporum ovale* which is the common contaminant observed in *seborrhea capitis* of human and seborrheic dermatitis of the dog and cat.

It is evident that an enhanced pine oil preparation containing an active antiseptic such as hexachlorophene will be more desirable and effective as a disinfectant and sanitizing agent in the home, nursery and hospital.

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## May We Put Some in Your Hands?

The Century Brand Oleic Acids pictured above have the following properties:

	Century 1050 L P White Oleic Acid	Century 1010 Distilled Oleic Acid
Maximum color, Lovibond	5Y/0.5R-5½"	15Y/3R-1"
Acid value	197-203	195-201
Saponification value	198-205	197-203
Unsaponifiable content	1.5% max.	2.0% max.
Polyunsaturates	3% max.	

We would like you to see our Oleic Acids and compare them critically with other competitive products, so you may fully appreciate Century Brand quality. We invite your comparison of Century Brand Oleic Acids because only you can realize their advantages in your products.

A request to Dept. H-30 for samples will receive prompt attention and we will welcome the opportunity to put these better products in your hands.



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WETHER your product requires liquid filling by gravity . . . or aerosol filling (with hydrocarbons, halocarbons, or nitrogen and other inert gases as propellants) . . . in can,

glass or plastic containers . . . we have complete facilities for handling the job, large or small. Let us help you solve your filling problems . . . write, phone or wire

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# Packaging...

**AEROSOLS • LIQUIDS • PASTES • POWDERS**

New half-gallon bottle for "White Monday" household bleach of Sinclair Manufacturing Co., Toledo, features more compact shape and lower center of gravity than container previously used. Two finger handle permits easy gripping without pinching. Decorative features include raised hobnail design around neck and stippled bands at shoulder and base. Private mold bottle and metal cap by Owens-Illinois Glass Co., Toledo.

Automotive  
Chemicals  
Cleaners  
Detergents  
Deodorants  
Disinfectants  
Floor Products  
Insecticides  
Laundry Bleach  
Metal Cleaners  
Moth Products  
Polishes  
Shampoos  
Shave Products  
Soaps  
Liquid Starch  
Toiletries  
and other  
Chemical Specialties

*A market for over 28 billion packages annually*







**LOOK TO A-H  
FOR YOUR COMPLETE GLASS CONTAINER,  
METAL AND MOLDED CLOSURE NEEDS**

Regardless of what you package, Anchor Hocking makes an Anchorglass® container in a style, size and color to most attractively, efficiently and economically package it. And, to seal your glass-packed products, there's a complete line of Anchor® metal and molded caps of which one or more will completely satisfy your diverse and specialized requirements.

Anchorglass containers and Anchor closures are manufactured under meticulous controls to provide you with uniform, high quality, dependable products. Contact an Anchor man now—you can depend upon his recommendations being well-considered, impartial and in your best interest. Anchor Hocking Glass Corporation, Lancaster, Ohio.

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*Put an Anchor Man on your team*



# HOW ABOUT WOOD FLOUR- FILLED UREA CLOSURES?



Closure Brown



Standard Black

For brown and black closures, PLASKON® Wood Flour-Filled Urea offers high-torque strength, odor-free color-fastness and less dust collection on the shelf—at a price competitive with older general-purpose plastics.

**Plaskon**

Wood Flour-Filled Urea is now produced in an all-new, automated plant by Allied Chemical. It's a high-quality thermosetting PLASKON Molding Compound. And no molder or user of closures will want to ignore its advantages.

PLASKON Wood Flour-Filled Urea matches the more expensive alpha-cellulose type in all properties, except translucency and range of color. This means you can now have the advantages of urea for all closures—alpha-cellulose for whites and pastels, wood flour-filled for browns and blacks.

**TODAY**—take your first step toward investigating this new closure material. Write for technical data and molded samples of PLASKON Wood Flour-Filled Urea.

#### Properties of PLASKON Wood Flour-Filled Urea include:

- Superior color-fastness
- Hard, non-electrostatic surfaces (will not attract dust on shelf)
- Greater scratch resistance
- Unaffected by ordinary solvents and highly impermeable to volatile agents

Molders find PLASKON Wood Flour-Filled Urea excellent for high-speed automatic operations. In addition to three years of preproduction research, this low-cost molding compound has been thoroughly tested and proved in commercial manufacturing equipment.

PLASTICS AND COAL CHEMICALS DIVISION  
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# Packaging NOTES

## **Southwestern Names Cron**

Myrvan H. Cron has been appointed sales-service representative in the Houston, Tex., area for



**Myrvan H. Cron**

Southwestern Steel Container Co., Dallas, it was announced recently by Gordon D. Zuck, president.

Since 1947, Mr. Cron has been engaged in serving the chemical, oil, paint, and food industries. With his appointment he now offers a complete steel packaging service to customers in the Houston area. Southwestern manufactures a complete line of steel pails in all types and sizes with "Hi-Bake" linings and color lithography.

## **Ball Brothers Name Three**

Three appointments were announced recently by Ball Brothers Co., Muncie, Ind.

R. G. Madill has been named eastern district sales manager for the commercial container division. Most recently manager of the Detroit sales office, Mr. Madill now makes his headquarters at the firm's New York offices. He also has served as sales representative in the Chicago territory.

J. W. Lofgren replaces Mr. Madill in Detroit. For the past nine years he has been a sales representative in eastern Michigan for Ball. Replacing Mr. Lofgren in

that territory is S. E. Nielsen who was previously at the general offices in Muncie.

— ★ —

## **Hazel-Atlas Booklet**

A new booklet titled "Imagination in Glass" has been published by Hazel-Atlas Glass division of Continental Can Co., New York, describing the division's new advance styling and design center in Wheeling, W. Va. The 16-page illustrated brochure describes the wide range of packaging problems handled at the center, which coordinates package engineering.

## **Crown Builds New Can Plant In Atlanta**

**G**ROUND was broken last month by Crown Cork & Seal Co., Philadelphia, for the construction of a \$7 million can and crown manufacturing plant in Atlanta. To be located on a 40 acre site, the initial section of the plant will be approximately 250,000 square feet of one story steel and masonry construction. All of this space will be devoted to manufacturing facilities except for 25,000 square feet for air conditioned offices, cafeteria, engineering and technical services departments. Completion of the plant is scheduled for the end of this year.

Production facilities in the plant will include high speed can manufacturing lines; high speed multiple die end press lines; and a strip feed press line. There

Artist's rendering of \$7,000,000 can and crown plant being built in Atlanta by Crown Cork & Seal Co., Philadelphia.



graphic art, model making, manufacturing, merchandising analysis, and consumer motivation research.

The booklet is available to producers of products suitable for glass packaging from Hazel-Atlas, 15th and Jacob Streets, Wheeling, W. Va.

## **Can Production High**

Metal can production in the United States during 1958 reached the second highest mark in history, American Can Co., New York, reported last month. Total industry production based on final figures for the year was placed at 41.5 billion cans. This figure is second only to the 1956 record of 41.8 billion cans, the company states.

## **Will Also Be High Speed Equipment**

for producing standard bottle crowns, spot crowns, and "Shall-O-Shell" crowns. Modern lithography coating lines for both cans and crowns will be installed as well as equipment for processing tin plate from coils.

The plant will be equipped with every type of can handling method, including the bulk pallet method and a high speed can handling system developed by the company.

Other features of the new facility are 14 inside freight car loading spots and a trailer loading area for a minimum of 12 trucks. Design of the plant provides for expansion of manufacturing and handling facilities.

### New Packaging Plant

Contract Packaging Corp. early this month moved to a new plant at 320 Highland Ave., Passaic, N.J., that will enable it to expand considerably production facilities. The company provides a complete packaging service for marketers of soaps, detergents, chemical specialties and toiletries—powders, creams, pastes and liquids. The new plant is equipped to handle all types of containers including envelopes, jars, bottles, cans, bags, pails and drums ranging from 10 grams to 400 lbs.

According to Michael J. Ferro, vice president of Contract Packaging, monthly capacity of the new plant will be two million pounds of powder products, such as detergents and cleaners, and one million gallons of liquids. This is approximately double that of the old plant. A modern railroad siding and adequate truck facilities

insure speedy handling of large and small shipments.

### Crown Names Wiessner

Gilbert W. Wiessner has been appointed sales representative in North Carolina for Crown Cork & Seal Co., Philadelphia. Robert J. Siebert, regional sales manager of the mid-Atlantic region announced last month. He has been with the company since 1940 and has worked out of Crown's Baltimore district office during most of his service with the firm.

### Anchor Sales Increase

Net sales of Anchor Hocking Glass Corp., Lancaster, O., amounted to \$132,873,829 last year, compared with \$125,050,522 in 1957. Net income rose to \$7,537,234 in 1958, from \$6,988,421 in 1957. Earnings per common share also increased from \$4.73 in 1957 to \$5.10 last year.

### Canco Builds in Canada

The Canadian metal can industry's first coil-processing center is under construction in Hamilton, Ontario, as part of a \$5 million expansion program of American Can Co. of Canada, Ltd., Hamilton.

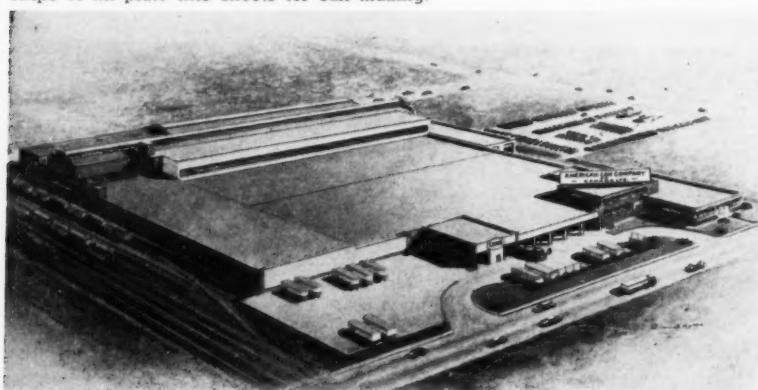
The new plant will have more than 200,000 square feet of floor space, according to G. H. McVean, vice-president of Canadian operations, and will be equipped with high speed automatic machinery to shear, inspect, sort, and

stack practically all the tin plate used in the company's five container plants in Canada. Eight coil-processing plants are now being operated in the United States by American's Canco division.

Included in the Canadian expansion program are centralized production of container tops and bottoms and enlarged facilities for enameling and decorating can-making plate.

The Hamilton facility is scheduled for commercial production late this year.

First Canadian coil processing center is being built in Hamilton, Ont., by American Can Co. of Canada, Ltd. Plant will house automatic machinery to shear continuous strips of tin plate into sheets for can making.



### Heads Folding Box Assn.

J. N. Andrews, executive vice-president of Ohio Boxboard Co., Rittman, O., was re-elected



J. N. Andrews

president of the Folding Paper Box Association of America at its annual meeting held last month at the Drake Hotel in Chicago. Joining Ohio Boxboard in 1936 as a salesman, Mr. Andrews became general manager in 1948 and was elected to his present position in 1956. He has been a director of the association since 1948 and a member of its executive committee for the past five years.

Members of the executive committee also chosen at the annual meeting include:

Mr. Andrews; William H. Walters, U.S. Printing and Lithograph Co., New York; W. J. Alford, III, Alford Cartons, Ridgefield Park, N.J.; Arthur N. Morris, Newth-Morris Box Corp., Jacksonville, Fla.; Leo H. Schoenhofer, Container Corp. of America, Chicago; D. A. Forsberg, Forsberg Paper Box Co., Madison, Wis.; and Noble Andre, Andre Paper Box Co., San Leandro, Calif., and Los Angeles.

Ten directors at large were elected by the association. They include:

A. W. Buchanan, F. N. Burt Co., Buffalo, N.Y.; E. B. Wall, Federal Paper Board Co., Bogota, N.J.; T. C. Nevins, Jr., Nevins Co., Clifton, N.J.; Byron H. Lengsfeld, Jr., Lengsfeld Brothers, Inc., New Orleans; D. A. Forsberg, Forsberg Paper Box Co., Madison, Wis.; Herbert C. Bernard, Shuttleworth Carton Co., New York; E. J. Bonville, Robertson Paper Box Co., Montville, Conn.; Ralph Schnitzer, Magnolia Carton Co., Houston, Tex.; Charles Ruble, Standard Paper Box Corp., Los Angeles; and R. F. Burroughs, Trenton Folding Box Co., Trenton, N.J.

### Folding Box Awards

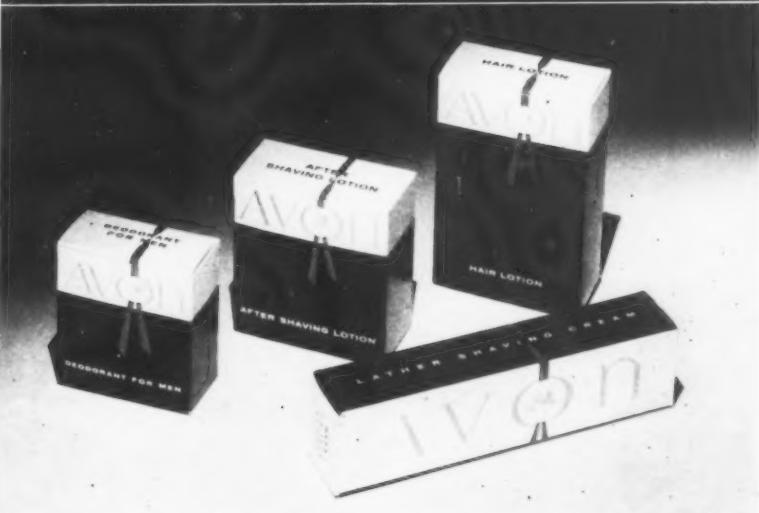
Cartons for "Fab", Colgate-Palmolive Co's heavy duty detergent, won a merit award in the 1959 Folding Carton Competition. Results of the contest, in which the hundred best cartons of 1958 were selected, were announced March 23 during the annual meeting of the Folding Paper Box Assn. of America, sponsor of the competition.

The family of "Fab" cartons received a merit award in the category, "Technical Superiority of Printing." The gravure printed "Fab" cartons were made by Continental Can Co., Robert Gair Paper Products Group, Piermont, N. Y. L. C. Douglas, supervisor of package design for Colgate, was the designer.

In the words of the judges, "the cartons have an eye-catching golden gleam resulting from the use of aluminum foil, with cross-spaced lighter shades of gold, laminated to chip board. Transparent blue inks highlight the clear white areas. The foil laminant affords moisture-resistance which eliminates lumping and caking of the product." Printed in four colors and varnished, the packages were praised by the judges for excellent register and legibility of printing.

Avon Products, Inc., New York, probably top winner of the competition, received four awards. Avon's "Men's Line" won two first awards: "Technical Superiority of Printing" as best multi-color letterpress printed carton, and best in the "General Merchandising Superiority" category for cosmetics and personal accessories. In this latter category "Prell" shampoo of Procter & Gamble won a merit award with a carton by Richardson Taylor-Globe Corp. Lord Baltimore Press supplied the winning carton for Avon's "Men's Line" which was designed by Maxwell B. Rogers of Avon.

Other Avon winners were the "Wishing" line of cosmetics and "Here's My Heart." Both of these cartons were accorded merit awards.



Among winners in 1959 annual competition sponsored by the Folding Box Assn. of America: Top, "Fab", which received merit award for gravure printing; center is Avon's "Wishing" line, winner of superiority of lithography award. Avon's "Men's Line" bottom won two first awards.



**TO  
ATTRACT  
CUSTOMERS**



let Maryland Glass  
design a bottle or jar  
for your exclusive use



When you drop a packaging problem in our lap, the end result is more than a glass container. It is an idea . . . born of restless imagination, shaped by skilled hands, backed by years of sound experience. Our creative staff gives you a selling package that packs well, helps stop the eye and start the sale at the point of purchase. For a successful solution to your design problem, contact MARYLAND GLASS CORP., 2153 Wicomico St., Balto. 30, Md.

**PACK TO ATTRACT IN  
MARYLAND GLASS**

BLUE • AMBER • FLINT



Newly formulated "Mel-O" waterless hand cleaner of Selig Co., Atlanta, now contains hexachlorophene, as bactericide, and lanolin. Product is described as "mild, creamy cleaner that removes grease oil, paint, ink, carbon stains and glue". Comes in 14-ounce wide mouth glass jar shown. Wall-type dispenser is available. "Mel-O" is applied to skin, rubbed in and residue removed by wiping with paper or cloth towel.



## What's New?

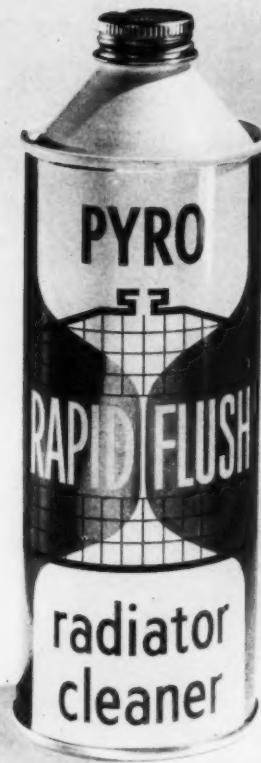
"Lewis Lye" of the Pennsalt Chemicals Corp., Philadelphia, first lye to be marketed in household-size metal containers and now more than a century old, acquired bright new label recently. Modern red, black and silver printed paper label features product's principal current urban use: drain cleaning, on front panel. Designed for better shelf appeal, new label is used on four "Lewis" brands: "Lewis Lye," "American Lye," "Dixie Lye" and "Eagle Lye." "Honest Quaker" with his scales, a familiar figure for generations on "Lewis" lye labels, is still integral part of design. Major change is reduction in amount of copy, more pronounced use of color, stronger product identification and drawings suggesting its use as a drain cleaner. Four earlier labels are shown in ascending order.

New half-gallon glass jar with bail handle to make carrying and emptying easier is being employed by Hubinger Co., Keokuk, Ia., to package its "Quick Elastic" liquid starch. Both jar and metal handle are manufactured by Hazel Atlas Glass Division of Continental Can Co., New York. Clear glass jar is simply decorated with a label printed in yellow, blue, white and black. Label design features brand name in large reverse letters. Metal cap is lithographed in yellow to match color in label.





New line of farm implement spray enamels has been added to its regular line of spray enamels, Krylon, Inc., Norristown, Pa., announced late last month. The line of nine farm implement matching colors, packed in wrought iron display rack, includes International Harvester red, Case flambeau red, John Deere and Case green, John Deere yellow, Oliver green, Caterpillar yellow, Allis Chalmers orange, Ford gray and Minneapolis-Moline Prairie gold. Line is packed in 16-ounce American cans to retail for \$1.79 each. Valves are by Newman Greene, Inc., Addison, Ill., and over-caps which match color of paint in container, are from Eastern Cap & Closure Co., Baltimore. Thomasson of Pa., Norristown, is the filler.



New three product point-of-purchase display bin introduced recently by White King Soap Co. of Los Angeles, Calif., for use with its "White King Cold Cream Complexion Soap," "White King Lemon Soap" and "White King Sierra Pine" deodorant soap. Each of these three products are featured on separate cards, which may be used as backs for bin. Copy panels are also available for "Sun," "White King" liquid detergent and "White King" cleanser. These wrap around bin and feature additional "White King" products.

New "Pyro Rapid Flush" liquid cleaner for flushing automotive cooling systems was introduced recently by Olin Mathieson Chemical Corp., New York, in time for the rush of spring drain-outs. Product, which company says requires no neutralizer, is applied in single step, can be left in cooling systems and drained when convenient. Packed in 16-ounce, Continental cone top can, 12 to a case, "Pyro Rapid Flush" retails for \$1.00.

Following a merchandising technique that has jumped its sales dramatically during the past three years, Fast Chemical Products Co., Yonkers, N. Y., is offering nationally its "SSS-T" steam iron cleaner in a bright new three-color shipper display stand designed and manufactured by the corrugated display department of Continental Can Company's Fibre Drum and Corrugated Box Division. Six dozen bottles are impressively arrayed in the display's tray section which also serves as the protective shipping container. The display base, scored five inches from both ends, folds up on either side of tray for shipping as small unit.



New "snap-lock captive cap" closures for one pint oblong cans have been announced by American Can Co., New York. New one-piece molded plastic fitment features cap that is hinged to spout through flexible arm. Closure is attained by pushing cap down on spout and snapping it into locked position. In addition to advantage of preventing cap loss, small orifice in spout cuts down on loss through spillage if can is overturned.

New "Blue Mink" shampoo of Lawrence Pharmaceuticals, Inc., Jacksonville, Fla., contains pure ranch mink oil. Eleven ounces, packaged in bottle by Owens-Illinois Glass Co., Toledo, retail for 79 cents in introductory offer. Cap is by Standard Closure Co. and Orchid Glass Co. does the silk screening of the label.

New "Just" polymer type liquid floor finish of Associated Just Distributors, Inc., Baltimore, is designed for use on all types of resilient and semi-resilient floor surfaces, sealed wood, terrazzo, etc. Product is packaged in 55, 30, 15 and five gallon drums and in gallon cans.

"Lanolor" pressure packaged hand lotion being marketed in Europe by Squibb, S.p.A., Italian affiliate of E.R. Squibb & Sons, New York. Valve and foam actuator are supplied by Sulfrene, S.p.A., Milan, Italian licensee of Risdon Mfg. Co., Naugatuck, Conn. Plastic cap is mauve to match aerosol actuator. One-piece, three-ounce container is aluminum.

Just being marketed is a new shampoo designed by John H. Breck, Inc., Springfield, Mass., for children 12 years of age and under. Three and one-half ounce glass bottle left, retails for 60 cents; eight ounce plastic container is \$1.00. Both sizes are packaged in gold foil folding boxes printed in red, black and white.

National distribution is now under way for "Alan" waterless hand cleaner, pressure packaged by Redram Chemical Co., Brooklyn, contract aerosol packager. "Alan" contains "Actamer," Monsanto's trade name for its bitihionol bactericidal. Sixteen ounces of product in Continental can retail for \$1.49. Precision valve.

Valves and actuators for two new German aerosol products are supplied by Risdon Manufacturing Co., Naugatuck, Conn. "Exo Bac Spray," a deodorant is packaged in a plastic coated bottle. The suntan spray, "Oli-Hot," is dispensed through a "Micro-Mist" valve and actuator from a metal container. Olivin Co., Wiesbaden, West Germany, importer of valves and actuators.

Two new aerosol additions to the line of Lora, Inc., Chicago, include "Foot Pal," a foot spray with hexachlorophene and "Kloze Fresh," clothes and closet deodorant. Each product is available in five ounce size to retail for \$1.25.





**NEW FORMULATION SERVICE** . . . most up-to-date of its kind in America, to help fillers and marketers develop new aerosols, modernize older ones, profitably!

**ALL REPRESENTATIVES TECHNICALLY TRAINED** . . . you'll enjoy dealing with men who know aerosol markets, understand production problems.

**ON-TIME DELIVERY** of the quantity you need, from a nationwide network of distribution points.

**YEARS OF EXPERIENCE** back the high quality of Ucon Propellants . . . and the technical assistance now available to you.

CARBIDE has long been active in emulsion technology, surface-coating technology, silicones, solvents, and the manufacture and handling of gases . . . all associated with the aerosol industry. Thus, UCON Propellants are a logical extension of CARBIDE's research and development programs.

For more information, write: UCON Propellants, Union Carbide Chemicals Company, 30 East 42nd St., New York 17, N. Y. Call, write or wire us, today! Attention, Dept. C-4.

UCON and UNION CARBIDE are registered trade marks of Union Carbide Corporation.

**UNION CARBIDE CHEMICALS COMPANY**  
*Division of Union Carbide Corporation*



**Ucon Propellants are available in five grades**

UCON Propellant 11 Trichloromonofluoromethane  
UCON Propellant 12 Dichlorodifluoromethane  
UCON Propellant 22 Monochlorodifluoromethane  
UCON Propellant 113 Trichlorotrifluoroethane  
UCON Propellant 114 Dichlorotetrafluoroethane

# NEW Trade Marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12 (a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the *Gazette*. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany each notice of opposition.

**Freedom** — This for shampoo. Filed Feb. 25, 1958 by Richard Hudnut, Morris Plains, N. J. Claims use since Dec. 30, 1957.

**Royalty** — This for soap. Filed April 14, 1958 by Nassour Studios, Inc., doing business as Nassour Cie., Ltd., Los Angeles. Claims use since Jan. 7, 1958.

**Fine Lab Now!** — This for liquid detergent for general cleaning purposes. Filed July 7, 1958 by Fine Laboratories, Inc., Freeport, Ill. Claims use since Nov. 11, 1957.

**Penna** — This for household liquid detergent. Filed July 14, 1958 by New Castle Fluid Chemical Co., New Castle, Pa. Claims use since June 26, 1958.

**Tempo** — This for polishing wax. Filed Aug. 7, 1958 by Tempo Products Co., Cleveland, O. Claims use since May 20, 1957.

**Water Lilies** — This for hair shampoos. Filed June 14, 1957 by County Laboratories, Ltd., Stanmore, Middlesex, England. Claims use since Sept. 12, 1956.

**Hudson** — This for powdered chemical compound for use as a cleaner of furs and all man-made furs. Filed July 16, 1957 by Hudson Fur Cleaning Co., Providence, R. I. Claims use since on or about Nov. 10, 1956.

**Shur-Kleen** — This for chemical cleaner for hard surfaces, particularly composition and terrazzo-type flooring. Filed Oct. 23, 1957 by Capco Chemical Corp., Providence, R. I. Claims use since on or about July 10, 1957.

**Cryst-L-Fresh** — This for detergents. Filed Jan. 14, 1958 by Viking Corp., San Jose, Calif. Claims use since Nov. 25, 1957.

**Greasweep** — This for powdered rice hull ash used as sweeping compound to remove grease from floors by absorption and abrasion. Filed Feb. 19, 1958 by Beagle Products Co., West Sacramento, Calif. Claims use since May 1951.

**Intersuds** — This for laundry soap. Filed Apr. 7, 1958 by H. Kohnstamm & Co., New York. Claims use since 1929.

**Cravax** — This for china and glassware cleaning composition and washing compounds. Filed Apr. 28, 1958 by Yadro Chemical Co., Milwaukee, Wis. Claims use since Feb. 20, 1947.

**Trisila** — This for mild alkaline

cleaning powder in the nature of a powdered alkaline detergent used as soap powder for general cleaning purposes. Filed June 18, 1958 by Amchem Products, Inc., Ambler, Pa. Claims use since Jan. 30, 1953.

**Lav-Tabs** — This for detergents in concentrated tablet form. Filed July 28, 1958 by Antone D. Pannuti, doing business as Lav Mfg. Co., San Jose, Calif. Claims use since July 15, 1957.

**Tama** — This for contact lens cleaner, and contact lens solution. Filed Aug. 11, 1958 by Tama, Inc., Chicago. Claims use since June 24, 1958, on contact lens cleaner.

**Prod** — This for liquid household detergent. Filed Aug. 13, 1958 by The Borden Co., New York. Claims use since on or before Feb. 28, 1954.

**Aero-Det** — This for industrial liquid detergent primarily for cleaning the exterior of airplanes. Filed Aug. 13, 1958 by Oakite Products, Inc., New York. Claims use since April 24, 1958.

**N-R-G** — This for industrial floor cleaning and sanitizing composition. Filed July 31, 1957 by Pennsalt Chemicals Corp., Philadelphia. Claims use since Aug. 19, 1952.

**Tergene** — This for detergent for dishes, bathroom, and laundry use. Filed Sept. 25, 1957 by Leon A. Powell, doing business as Specialty Products Co., Griffin, Ga. Claims use since 1950.

**Auto-Mate** — This for liquid cleaner for removing dirt, grease, stains, and bugs from automobiles. Filed Dec. 9, 1957 by Miss-Del Products Co., Jackson, Miss. Claims use since Dec. 8, 1956.

**Rosenthal's** — This for all-purpose cleaning solutions, spot remover compositions for wood furniture, and oil soap compositions. Filed July 21, 1958 by Rosenthal Clears-Quick Co., Oak Park, Mich. Claims use since 1902 on oil soap compositions.

**Shur Nox** — This for liquid detergent. Filed Sept. 8, 1958 by The Photo-Line Corp., Tulsa, Okla. Claims use since July 23, 1958.

**Love To Touch** — This for toilet soap. Filed Sept. 10, 1958 by The Andrew Jergens Co., Cincinnati. Claims use since June 21, 1958.

**Beauty Lift** — This for toilet soap. Filed Sept. 10, 1958 by The Andrew Jergens Co., Cincinnati. Claims use since June 21, 1958.

**Geiger Kleen-Nu** — This for liquid preparation for cleaning aluminum doors, windows, and grilles. Filed Sept. 12, 1958 by Earl D. Geiger, doing business as Geiger Products Co., Pandora, O. Claims use since Dec. 15, 1956.

**Action** — This for sudsing cleaner, cleanser, and detergent. Filed Sept. 16, 1958 by Colgate-Palmolive Co., New York. Claims use since Aug. 6, 1958.

**Sunday Shine** — This for cleaner-polish for painted and enameled surfaces, particularly automobiles. Filed Sept. 26, 1958 by S. C. Johnson & Son, Inc., Racine, Wis. Claims use since Aug. 21, 1958.

**Knu Kote** — This for polishing

compounds for furniture, automobiles, and finished surfaces, a prepared liquid wax, and a preparation for removing surface defects from furniture. Filed Sept. 29, 1958 by National Polish Co., Rockford, O. Claims use since Nov. 1, 1938.

**Dielmoth** — This for insecticide. Filed May 23, 1958 by Shell Chemical Corp., New York. Claims use since April 14, 1958.

**Paradyne** — This for deodorants used with toilets and urinals. Filed Aug. 4, 1958 by Klix Chemical Co., South San Francisco, Calif. Claims use since Feb. 3, 1958.

**Pink Magic** — This for all-purpose cleanser. Filed June 3, 1957 by S & S Soap Co., Bronx, N. Y. Claims use since May 5, 1957.

**Miss Bo-Peep** — This for detergent preparation with whitening and brightening properties. Filed Sept. 24, 1958 by The John Puhl Products Co., Chicago. Claims use since Aug. 26, 1958.

**Steri-Zone** — This for chemical disinfectant deodorant. Filed Aug. 5, 1957 by Biscayne Chemical Laboratories, Inc., Miami, Fla. Claims use since January 1950.

**Amchem** — This for herbicides. Filed May 28, 1958 by Amchem Products, Inc., Ambler, Pa. Claims use since May 21, 1958.

**Ex-It** — This for liquid and spray deodorant having a household use and a general use in the industrial arts. Filed July 24, 1958 by Le Fevre Chemical Co., Oklahoma City, Okla. Claims use since July 10, 1957.

**Patco's Weedkill** — This for chemical for destroying noxious plant life. Filed July 30, 1958 by Lee Paton Seed Co., Jersey City, N. J. Claims use since April 22, 1958.

**CM-19** — This for fungicide composition also useful as a preservative and disinfectant. Filed Apr. 24, 1958 by Guardian Chemical Corp., Long Island City, N. Y. Claims use since April 23, 1956.

**Grill Kleen** — This for cleanser for household use. Filed Apr. 25, 1956 by The Climalene Co., Canton, O. Claims use since April 13, 1956.

**Ethicon** — This for surgical soap. Filed Sept. 12, 1958 by Ethicon, Inc., Somerville, N. J. Claims use since May 2, 1947.

**Blu-Magik** — This for liquid detergent used primarily for washing dishes and glassware. Filed Sept. 23, 1958 by National Chemicals, Inc., Winona, Minn. Claims use since 1944.

**Car-Skin** — This for automobile waxes. Filed Sept. 15, 1958 by Car-Skin Products Corp., Flemington, N. J. Claims use since May 18, 1936.

**Little Giant** — This for insecticides. Filed June 23, 1958 by Cenol Co., Chicago. Claims use since on or before Feb. 3, 1958.

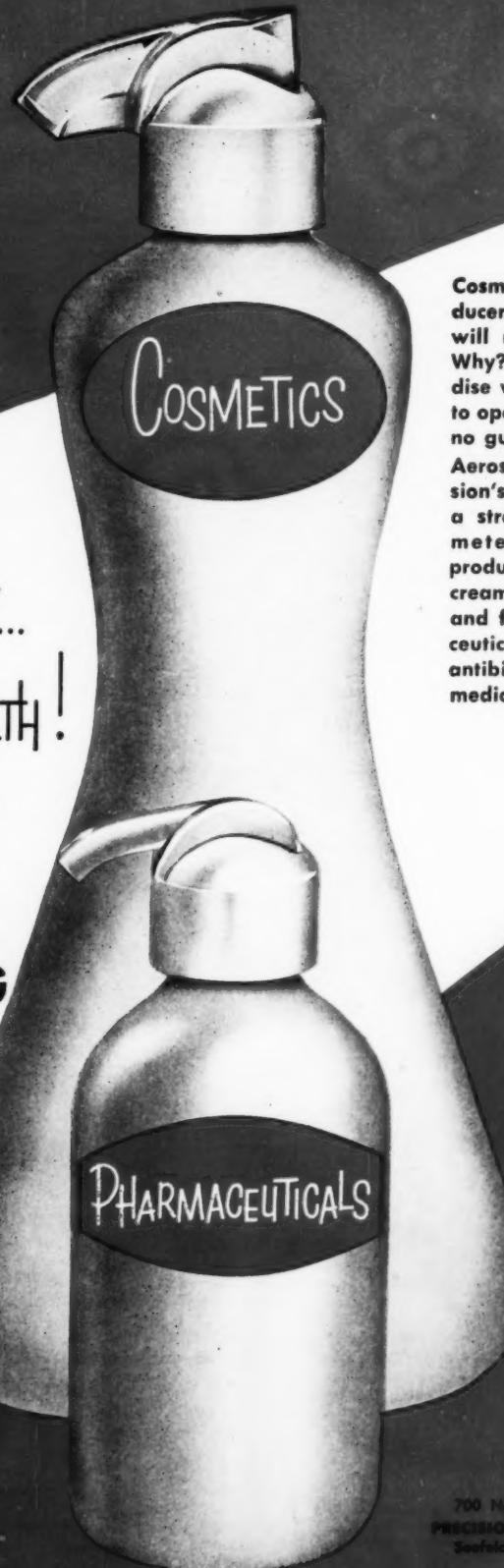
**Vibro** — This for room deodorant. Filed Aug. 11, 1958 by Soap Specialties, Inc., Philadelphia. Claims use since Mar. 1, 1956.

**Amawite** — This for optical bleach. Filed Aug. 26, 1958 by Kopers Co., Pittsburgh. Claims use since Jan. 7, 1958.

**Spunj** — This for sweeping compound for cleaning floors, driveways, and the like. Filed June 20, 1958 by Canfield Oil Co., Cleveland. Claims use since June 3, 1958.

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# PRESSURE PACKAGING

## ATI Names Four Executives

The election of two vice-presidents and two major executive appointments were announced



Samuel B. Prussin

last month by H. R. Shepherd, president of Aerosol Techniques, Inc., Bridgeport, Conn., contract fillers.

The new vice-presidents are Samuel B. Prussin and Ethel F. Walsh. Mr. Prussin will direct all technical operations, including research and development, quality control and new products, and sales development. Mrs. Walsh will supervise and coordinate production services, sales services, and purchasing.

David Benjamin



David Benjamin has been appointed assistant to the president, with additional responsibilities for special projects.



Mrs. Ethel F. Walsh

Val Rossetti has been named controller and financial officer. Both are members of the executive committee.

Mr. Prussin was most recently director of new products and sales development at ATI and has been head of much of the company's expansion into the field of aerosol pharmaceuticals and topical medicine. He was formerly with Rexall Drug Co., Chicago.

With ATI since it was founded, Mrs. Walsh had been as-

Val Rossetti



sociated with Bridgeport Brass Co., Connecticut Chemical Research Corp., and Propel Chemicals.

Mr. Benjamin has been director of purchases since he joined ATI two years ago. He was formerly with Becker & Becker Associates, New York.

Prior to his new appointment, Mr. Rossetti was in charge of all accounting at ATI, a position he held since the firm was founded.

## Licensing Agreement

Colgate-Palmolive Co., New York, and Precision Valve Corp., Yonkers, N. Y., have entered into a licensing agreement which permits Colgate to package aerosol formulated "Colgate" tooth paste in aerosol containers under Precision's pending patent application on the product's formulation. Precision is offering similar royalty-free licensing agreements to all companies currently marketing aerosol dentifrices in order to, according to the company, establish a sound marketing basis to facilitate widespread merchandising of the product.

## New Aerosol Filler

A new machine for filling aerosol containers is being manufactured by the Surplice and Tozer Engineering Co., Ace Works, Windsor (Berkshire), England. Designed to fit into existing filling lines, the machine is totally enclosed apart from the small platform on which the container stands while it is being filled. The operator places each container in a clip beneath the machine's filling head. The platform is raised automatically so that the aerosol valve is brought up to the filling head for withdrawal of air. When a predetermined amount of air is withdrawn, the machine measures out a "dose" of the product and adds the propellant charge. Each of these operations may be omitted from the sequence by means of a cut-off switch and the proportions of product and propellant can be easily adjusted, the manufacturer states.



### Reed Names Scattergood

John G. Scattergood has been appointed sales manager of the marketing division of Reed Research Corp., Shelton, Conn., it was announced last month by Winston H. Reed, president. Most recently with Powr-Pak, Inc., Bridgeport, Conn., in sales for contract filling, Mr. Scattergood previously was with A. Schrader's Son division of Scovill Manufacturing Co., Brooklyn, N. Y.

Reed Research recently expanded its staff facilities for contract filling of small and test market runs of aerosol products, according to Dr. Reed. The company also offers aerosol consultant services

**John G. Scattergood**



and manufactures aerosol laboratory and production equipment.

### Pennsalt Aerosol Bulletins

Two bulletins of interest to aerosol marketers and loaders were

Precision Valve Corp., Yonkers, N. Y., has introduced an aerosol spray button which incorporates an impressed arrow in a second color to indicate instantly the direction of the spray flow. The impressing and coloring of the arrow is an integral part of the molding operation and can be made available at practically no increase in cost over conventional buttons, Precision says.

published recently by Pennsalt Chemicals Corp., Philadelphia.

One of these is a three-page chart of Interstate Commerce Commission regulations pertaining to aerosols. Included is information about types of containers and maximum capacity, dispensing pressures, specific limitations, packaging, labeling, marketing and testing. Compiled by D. S. Tillotson and J. H. Haslip of Pennsalt, the data is based on H. A. Campbell's Tariff #10 of June 19, 1957.

The other bulletin provides technical information on "Isotron" propellents. Included are vapor pressure tables for mixing of "Isotrons" 11 and 12 and mixtures of "Isotrons" 12 and 114 for temperatures ranging from -40° F. to 160° F. Tables for 100 per cent "Isotron" 11, 12, 22, 113, and 114, are also presented, as well as a complete data report of the physical properties of each. Information covers the company's sales service laboratory.

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Used to make refillable glass and metal  
Aerosol Containers

Will fit coated and uncoated bottles. If you have a special bottle send a sample to make sure of fit.

FULL LINE OF LAB EQUIPMENT

BUILDERS' supplies complete laboratory set-ups, including laboratory pressure fillers, drill press capping machines, liquid transfer apparatus, can piercing pressure testing apparatus, constant temperature water baths, dry ice coolers, cabinets, formica top tables, tanks and tank racks, etc.

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**These new plastic coated glass containers combine convenience and product protection**

These new Owens-Illinois plastic-coated glass packages give your pressure-packed products the protection which only *glass* can provide.

These convenience packages are the result of careful research, engineering, and design by Owens-Illinois who is ready to supply tech-

nical help in the packaging of *your* product.

Brilliantly dressed in a wide range of exciting colors and topped with handsome caps, Owens-Illinois plastic-coated glass containers can be decorated with any design to create eye-catching, sales-building packages.

DURAGLAS CONTAINERS  
AN **I** PRODUCT

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GENERAL OFFICES • TOLEDO 1, OHIO



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## RISDON VALVE QUALITY IS VITAL INSURANCE

The payoff point for all the time and money invested in your aerosol product is at the fingertips of the user. That is where repeat sales are made or lost.

When your customer pushes the actuator, the performance-insuring quality of a Risdon valve becomes vital. And nothing less than Risdon quality gives full assurance of customer-pleasing results over the entire life of the package. An inferior valve can turn out to be your most expensive "bargain".

Risdon quality... performance-proven on many millions of packages... is the result of extensive scientific research and development. It is zealously guarded at every stage of valve manufacture by Risdon's uncompromising quality control.

Most leading aerosol packagers keep their success secure by using only Risdon valves to dispense their products.

Contact Risdon for specific information on the valve for your product.

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On RISDON Valves

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DISPENSING Conventional Aerosols, 3-Phase  
Products, Alcohol Base Products, Water-Base  
Products, Foam Products, Powder Sprays,  
Metered Sprays, Ultra-Low Pressure  
Applications, Products Containing Propellant  
Emulsions or Dispersions, etc.

RI-103



THE RISDON MANUFACTURING CO.  
Aerosol Division • Naugatuck, Conn.

## CONTRACT FILLING

## PRIVATE LABEL

# GUIDE

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Exclusively private label manufacturer of aerosol cosmetics, pharmaceuticals and chemical specialties.

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Compounding and Filling facilities for Powders, Pastes and Liquids 10 grams to 400 lbs. Envelopes, jars, bottles, cans, bags, drums, pails, etc. Modern railroad siding. Multiple platform truckwells.

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*Contract Packagers*  
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**HOBOKEN N. J.**

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Reduce your packaging cost by letting us package for you. We also warehouse and ship.

**Large or Small Runs**

SINCE 1946  
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CONTRACT PACKAGER**

Your product can be packaged in America's fastest growing market AT NO COST TO YOU. The freight saved usually pays the bill. COMPLETE FACILITIES FOR MANUFACTURING, PACKAGING, STORING, AND SHIPPING LIQUIDS, POWDERS, CREAMS.

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**GARD**. A COMPLETE  
AEROSOL SERVICE

Product Development  
Cold or Pressure Filling  
• Short and Long Runs  
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FOR FOOD, DRUGS, PAINTS AND CHEMICAL SPECIALTIES  
GARD now offers the most complete, most modern filling facilities in the industry for all aerosols from food to paint. Minimum production runs — as low as 1,000 cans to 1,000,000 and up! Air-conditioned, humidity controlled throughout.  
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*Contract Aerosol  
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to fit  
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PRODUCT**



• No minimum run required and no maximum limit! Rigid quality control is maintained on all production, contract filling or custom packaging.

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**AEROSOLS - All Kinds**  
**Liquid & Powder Filling**

OUR CHEMISTS WILL  
HELP YOU FORMULATE NEW PRODUCTS  
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LABORATORY is one of the Best  
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IN AEROSOL DISPENSERS BY:**

*Scranton Aerosol Packaging*

**NEWEST FACILITIES:**

The most modern in the industry, with consistent quality control. Production: 45,000 units per shift.

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Freon, isotron, genetron, ucon, and butane are some of many available. Highest quality guaranteed.

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40,000,000 consumers within 250 mile radius. Focal pt. of Fed. Hwy. Program. 100,000 sq. ft. of storage facilities.

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**Small Runs Solicited**

Insecticides, Deodorants, Tooth Paste, Shave Cream, Cosmetics, Toiletries, Household & Industrial Products, Powders, Colognes, Plastic Sprays, etc.

• Experts in formulation and development • strict quality control • ample storage • pressure and "COLD FILL" lines • samples and experimental work at no charge • special plan for companies requiring national distribution. Write or phone for details—no obligation.

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321 W. PRATT ST., BALTO. 1, MD.

**See Aerosol Paint Rise**

Robert Hollister of the product marketing division of American Can Co., New York, recently predicted a 20 per cent increase in the production and sales of aerosol paints during 1959. Emphasizing the steady growth of pressure packaged paints, Mr. Hollister estimated that 60 million cans would be sold this year, compared with 50 million in 1958 and 35 million units in 1957. Calling this a "conservative estimate," he noted that aerosol paint sales amounted to \$50 million last year, compared with

the total sales value of trade paints of \$900 million.

Paint industry leaders engaged in the production of aerosol products generally agree with Mr. Hollister's prediction. Some are introducing new products such as reflective colors from Krylon, Inc., Norristown, Pa., and rust inhibitor paint from Benjamin Moore & Co., New York. Others like Red Devil Chemicals, Inc., Mount Vernon, N. Y., are content just to keep up with the demand for their products.

One change in aerosol

**Thomasson**  
of PA., INC.

**AEROSOL FILLING**  
for Private Label Marketers

Also Liquid Filling

Complete research  
and laboratory facilities  
Constant quality control  
Norristown, Pa. BROADWAY 5-4355

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PROGRESSIVE  
AEROSOL FILLER**

Compare our  
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and CONFIDENTIAL SERVICE  
**W E S T E R N**  
FILLS ALL PRODUCTS  
**WESTERN FILLING CORPORATION**  
6423 BANDINI BLVD., LOS ANGELES

paints, according to Mr. Hollister, may be in container size. He reported that Canco is working on a container of over 16 ounces.

## New book on Aerosols . . .

### "PRESSURIZED PACKAGING" (AEROSOLS)

By A. HERZKA AND J. PICKTHALL

19 Chapters . . . 411 Pages

Cloth bound. \$12.00 postpaid in the U.S.A.  
\$12.50 elsewhere.

Check must accompany order. Add 3% if in N. Y. City.

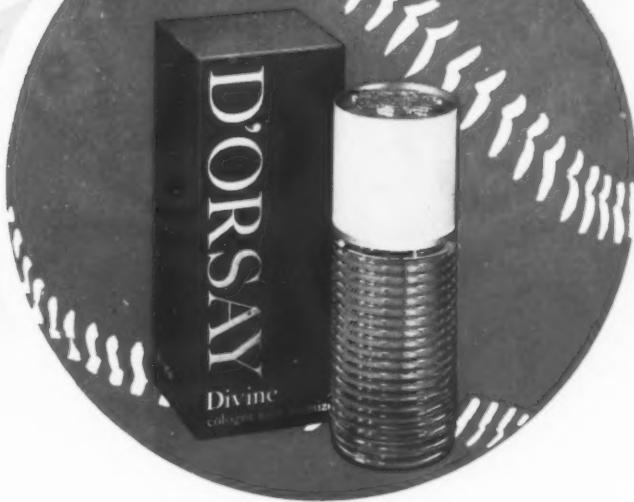
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254 West 31st St. New York 1, N. Y.

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of "Pressurized Packaging" by Herzka and Pickthall.  
Please ship postpaid to the following:

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# another hit for D'ORSAY...



## with an assist by **VCA**



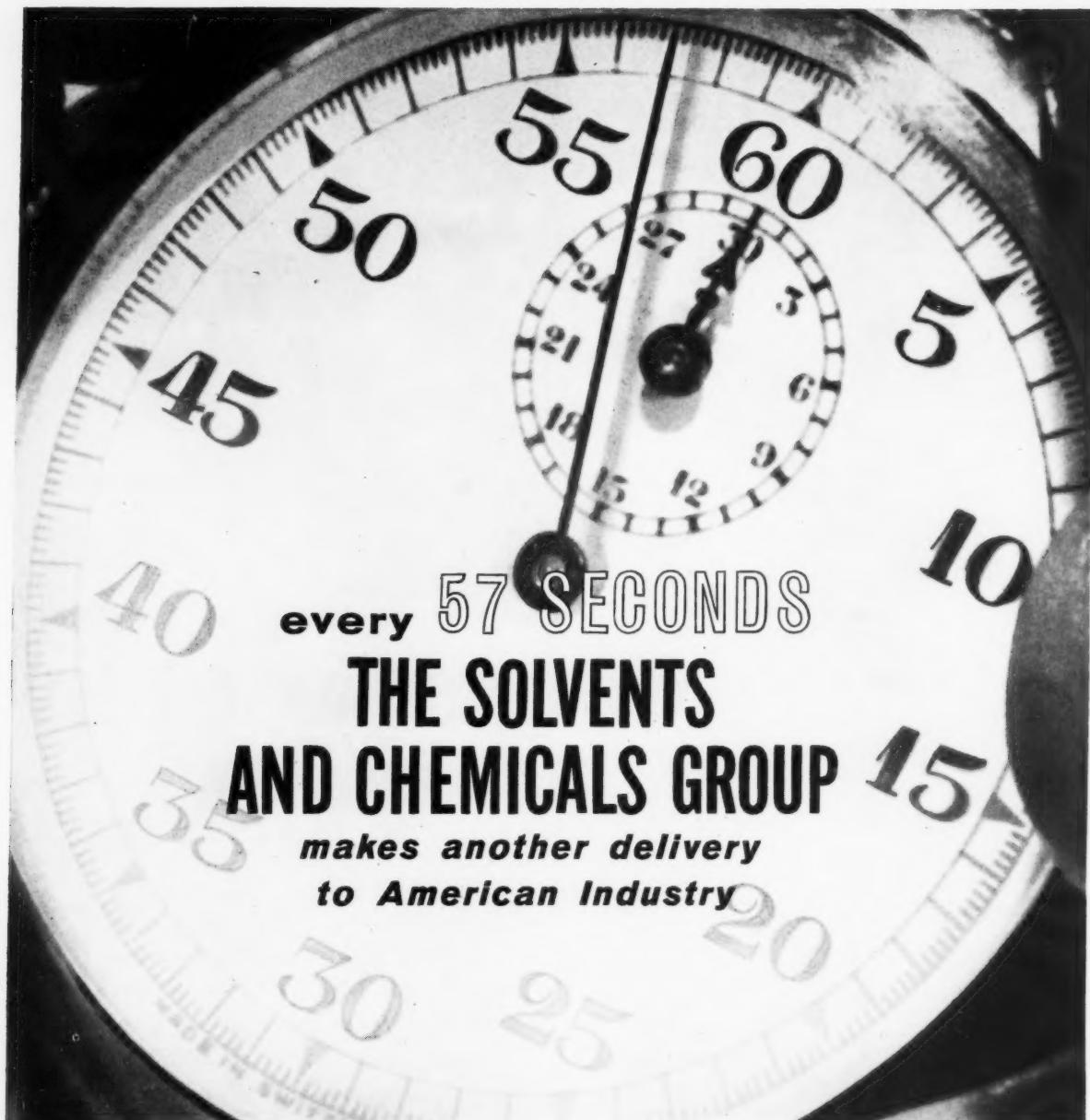
D'ORSAY of Paris is batting high in sales and consumer acceptance with its new COLOGNE MIST ATOMIZER. It features the VCA "Mist Top" Valve and Low Pressure Actuator. Packaged in 1½ and 3 ounce sizes in the renowned D'ORSAY fragrances—Intoxication, Divine, Fantastique and LeDandy.

VCA exclusive one source service and technical assistance can propel your product into quick leadership, too.

Call VCA today, or send specifications for samples and prices.



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# Production...

**EQUIPMENT • MATERIALS • PROCESSING**

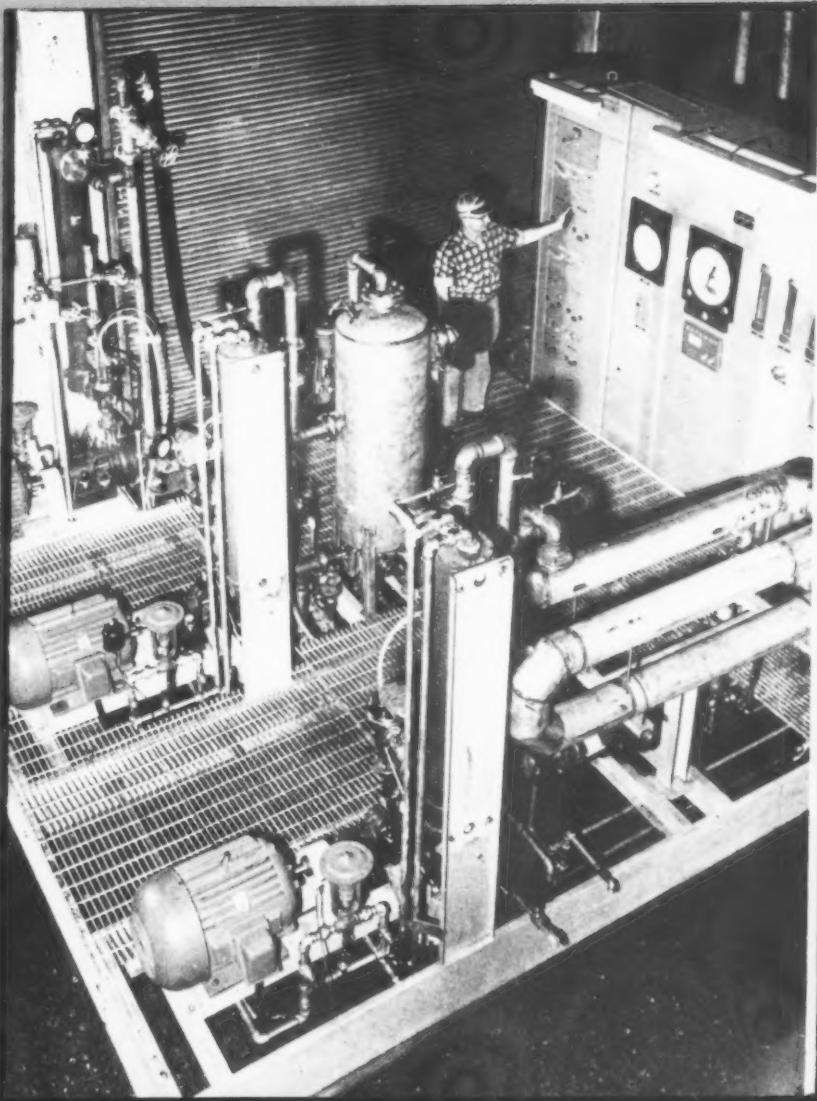
**Book Reviews**

**Products and Processes**

**New Patents**

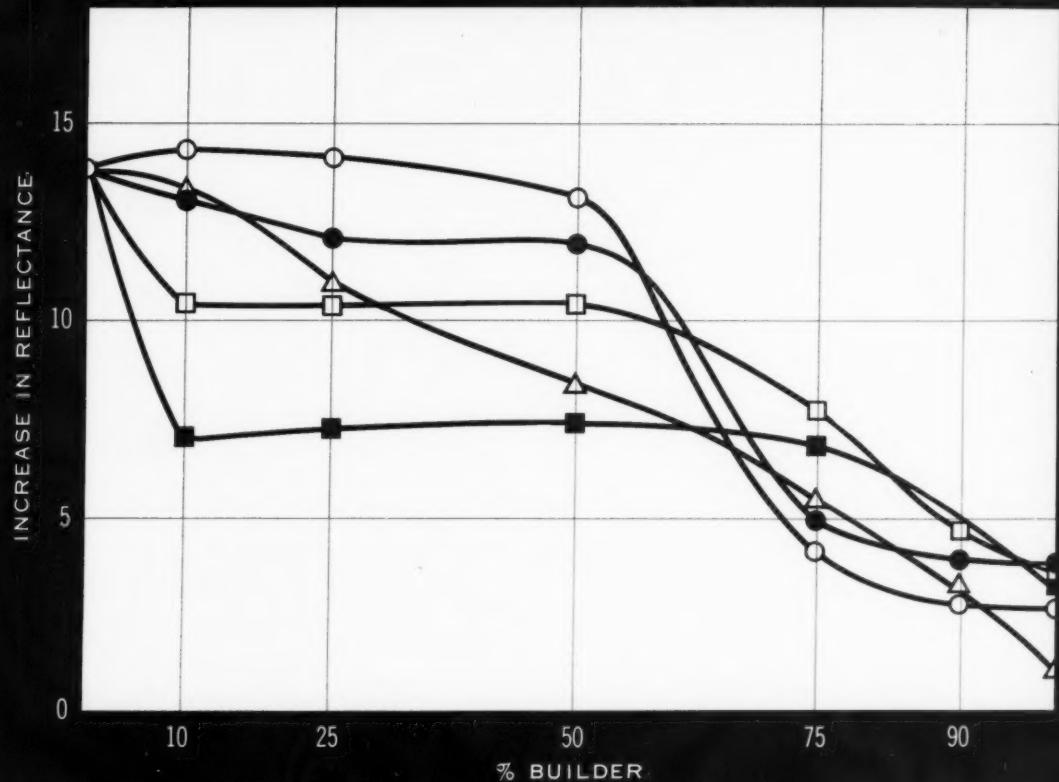
**Bulletins and Equipment**

Overall view of the continuous, package, rapid sulfonation plant engineered by Chemithon Corp., Seattle. Plant, covering a floor area 20 feet square, has annual capacity of 20 million pounds of slurry. Unitized construction and flanged connections permit assembly on integral bases in a few days. See article beginning on page 131.



# BETTER SOIL REMOVAL

## with Synthetics and Silicates



Soil removal with 0.2% synthetic detergent-builder mixtures in 50 ppm hard water.

- N SODIUM SILICATE  
41° Baume, ratio %Na<sub>2</sub>O:%SiO<sub>2</sub>, 1:3.22
- C SODIUM SILICATE  
59° Baume, ratio %Na<sub>2</sub>O:%SiO<sub>2</sub>, 1:2.0
- METSO GRANULAR  
Sodium metasilicate pentahydrate, molecular ratio 1:1
- PYROPHOSPHATE
- △ SODA ASH

PQ Soluble Silicates boost the soil-removing power of the synthetics. For instance, in the range of 10-50%, additions of N, 41° Baume sodium silicate to synthetic detergents produce reflectance values superior to those of synthetics combined with other types of builders.

In formulating your synthetic-builder mixtures, count on improved soil removal in the prevention of soil redeposition with the PQ silicates. Yet, these improvements do not cost more. You actually pay less for them.

Our technicians will be pleased to discuss how the detergent values of PQ silicates can help you in your formulations.

PQ SOLUBLE SILICATES



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Associates: *Philadelphia Quartz Co. of Calif. Berkeley & Los Angeles, Calif., Tacoma, Wash.; National Silicates Limited, Toronto, Canada*  
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TRADEMARKS REG. U.S. PAT. OFF.

PQ PLANTS: ANDERSON, IND.; BALTIMORE, MD.; BUFFALO, N.Y.; CHESTER, PA.; JEFFERSONVILLE, IND.; KANSAS CITY, KANS.; RAHWAY, N.J.; ST. LOUIS, MO.; UTICA, ILL.

# Production SECTION

## High Output Sulfonation Unit

**R**APID production of high quality detergent intermediates in a small space is now possible with a new type continuous sulfonation unit. Low operating costs, "reasonable" capital investment and versatility are also claimed for this new, high capacity, package plant produced under the trade name "Chemithon" by Chemithon Corp., Seattle, Washington.

A "Chemithon" plant capable of producing five million pounds of active ingredient per year occupies a floor area of 15 feet square; 20 million pounds per year can be turned out in a plant requiring a floor area of only 20 feet square. Such compact design is possible because of the high reaction rates obtained by this process.

Continuous sulfonation of detergent alkylate (alkyl benzene) with oleum in such a unit involves three basic steps: sulfonation; dilution and separation of

### Large volume of detergent intermediate turned out with new, compact sulfonator. Intermediates have good odor and color.

excess acid; and neutralization of the concentrated sulfonic acid.

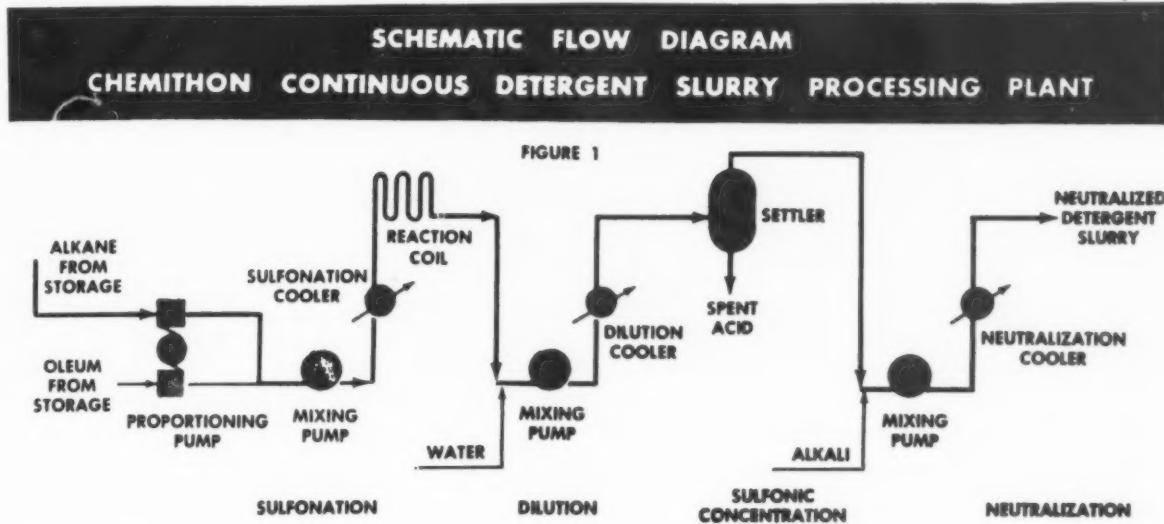
Good sulfonation practice aims at obtaining complete conversion of alkyl benzene combined with high product quality. Good quality means good color and odor properties and minimum of double sulfonation and alteration of the alkyl benzene side chain. To accomplish these aims the variables of reaction temperature, reaction time, acid strength, and the ratio of acid to alkylate must be adjusted correctly.

In the "Chemithon" process, as shown in Figure 1, alkylate and oleum are proportioned volumetrically into a sulfonator and mixed rapidly. The mixture is cooled in a heat exchanger equipped with automatic tempera-

ture control to remove the excess heat of reaction. This arrangement permits relatively high sulfonation temperature (about 125°F.) without color impairment. After this initial mixing and cooling the reaction has progressed almost immediately 92 to 96 per cent towards completion. The mixture then flows into a reaction coil where sulfonation is completed. After leaving the reaction coil the residual free oil has dropped to about 0.8 per cent (on active basis). A typical reaction rate curve is shown in Figure III.

### Separation

In the second step of dilution and separation, water is added to the sulfonic-sulfuric mixture diluting the sulfuric acid to a con-



# REWARD

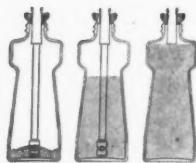
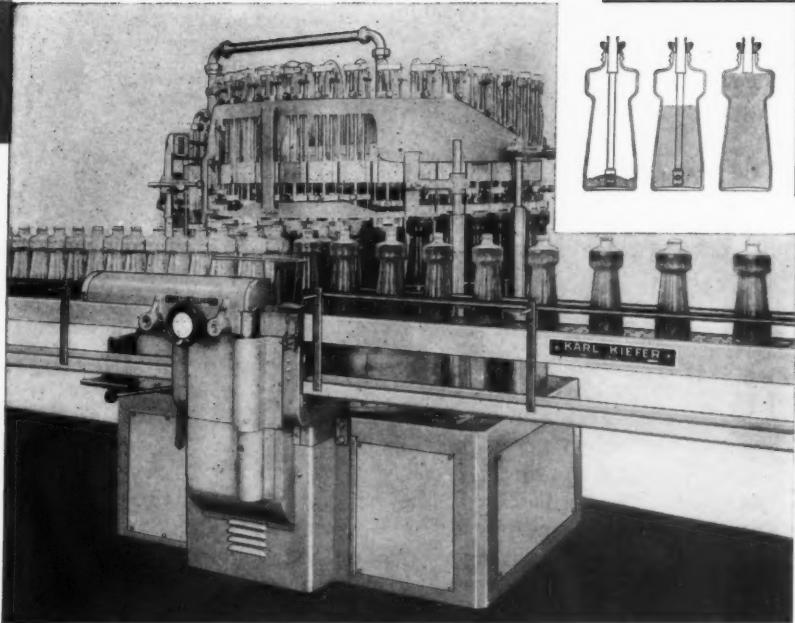
SUBMERGED filling (patents pending) is now available on both the Karl Kiefer VACUUM and the Karl Kiefer exclusive PRESSURE-VACUUM FILLERS. This will eliminate foaming and air entrainment.

Unbelievably high speeds are obtainable; with fill height adjustment while RUNNING.

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Amazing filling machines for handling plastic bottles, to solve your difficult problems.  
— • —

We build a complete line of AEROSOL EQUIPMENT.

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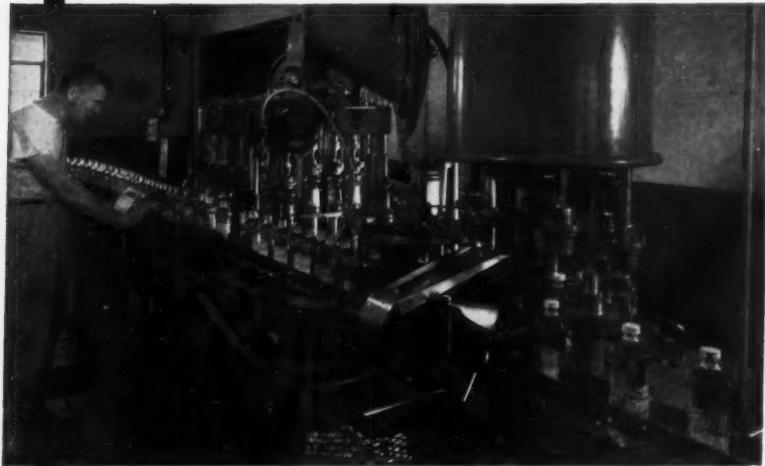


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CaPeM Screw Cappers apply all types of metal and plastic screw caps to jars, bottles, cans and jugs ranging in size from 1 oz. to gallons. Speeds range from 40 to 300 containers per minute. Write for complete information.

centration of about 80 per cent. The two acids become mutually insoluble and the large difference in specific gravity causes them to separate. Conventional batch practice calls for about four hours settling time with settling temperatures of around 135°F, which may cause considerable color degradation.

In the "Chemithon" process sulfonic acid is separated from sulfuric in a concentrator (see diagram). Separation is effected by diluting the mixture to form an unstable emulsion which splits into two phases in about 10 minutes, as shown in Figure IV. The separation is fast enough to prevent undesirable color changes. According to Chemithon Corp. an actual improvement in product color is observed in this processing stage owing to the preferential loss of color bodies in the spent acid layer.

The final processed acid mixture contains approximately 7.5 per cent sulfuric. The spent acid layer has a sulfonic acid content of 0.2 per cent.

Concentrated sulfonic acid can be produced in 30 minutes by the rapid separation method described above compared with six to eight hours by the batch process.

Neutralization of the sulfonic acid is accomplished with caustic soda, ammonium hydroxide, or organic amines. Neutralization is rapid and exothermic. Acid and alkali are mixed and passed through a heat exchanger for temperature control, minimizing the risk of localized overheating. An automatic pH controller regulates the flow of neutralizing agent, and insures a final product of preset pH level.

#### **Alcohol Sulfation**

The Chemithon process employs oleum as sulfating agent for alcohols. The reversible character of the reaction calls for a very short reaction time. Oleum and alcohol are proportioned, mixed rapidly, and cooled in a heat exchanger. No

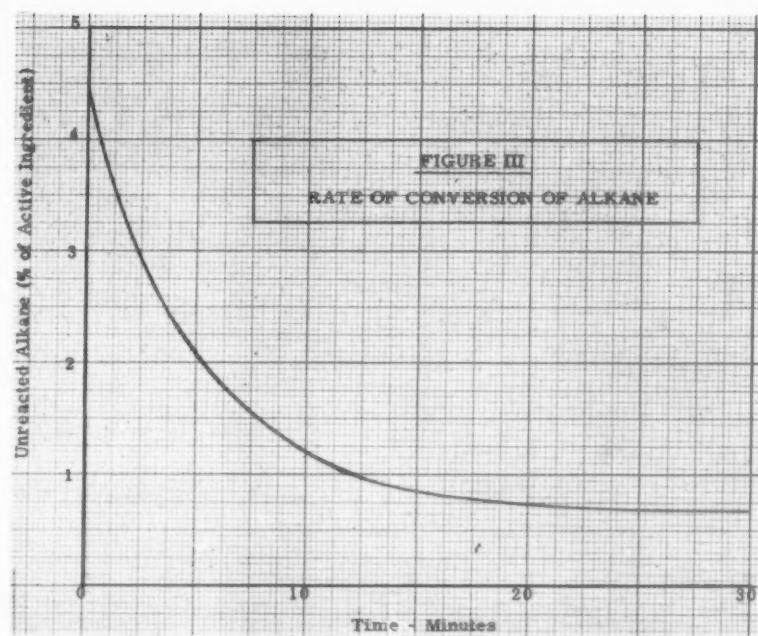


FIGURE III  
RATE OF CONVERSION OF ALKANE

digestion is required before the mixed acids are neutralized. Depending upon the raw materials being processed, from 95 to 98 per cent conversion is obtained.

Since the sulfation of fatty alcohols is reversible, the excess cannot be separated, as in the sulfonation process, and winds up as salt in the neutralized product. The presence of salt should, however, be kept at a minimum in highly active detergents such as shampoos, cosmetics and liquid detergents. Sulfation of alcohols with

chlorosulfonic acid produces a relatively salt-free product, because only a very slight excess of acid is required. The Chemithon system can be adapted to the use of chlorosulfonic acid. In this case the hydrogen gas generated by the reaction must be removed continuously. This may be accomplished by addition of a special separation tank.

Sulfation of fatty alcohols with oleum or chlorosulfonic acid by the Chemithon method yields a product of good color in minutes

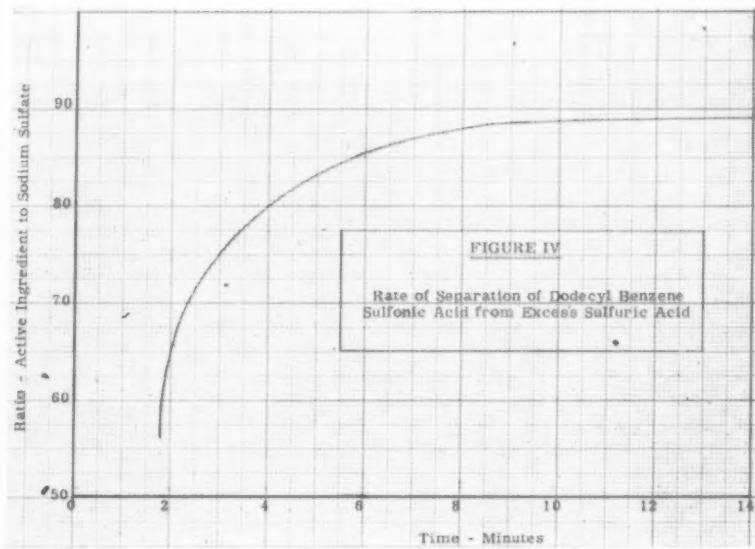


FIGURE IV  
Rate of Separation of Dodecyl Benzene Sulfonic Acid from Excess Sulfuric Acid

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See "A"**

**MULTIPLE  
FILLER  
See "B"**

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**B** MODEL B-49 STRAIGHTLINE VACUUM FILLER. Standard machine has 9 filling heads. Adjustable for container size changes, miniatures to gallons. All contact parts stainless steel or plastic on order. Available with or without discharge conveyor. Request "Bulletin B-49".

**C** U. S. SIPHON FILLER. Adjustable for all containers, all liquids including foamy products or products that do not permit agitation. Stainless steel tubes; glass lined tank. Request "Siphon Bulletin".

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instead of several hours required for conventional batch processing.

#### Tandem Process

Mixed detergent products may be made in the "Chemithon" installation by tandem sulfonation of detergent alkylate and fatty alcohols. In conventional plants such products are made by sulfonating separately the detergent alkylate and the fatty alcohol and then blending the products either before or after neutralization in the desired proportions.

Under the tandem system the unneutralized acid is passed from the sulfonation stage directly to the sulfation unit where fatty alcohol and more oleum are added. The mixed acids are neutralized together to produce a uniform slurry. Advantages claimed for this method include improved homogeneity of the slurry, economies in plant cost and acid requirements, and better alcohol conversion.

#### Advantages

Rapid reaction rates achieved with a "Chemithon" installation permit compact design without sacrificing throughput. Special heat exchanger design is claimed to give values three to five times higher than conventional equipment. Small hold up volume of the system lends itself to rapid changes from one product to another. The plant, full of acid, can be shut down for several days, so that production operations can be resumed rapidly.

Continuous flow lends itself well to instrumentation. Rate of flow, temperature and pH controls are equipped with alarms, which make it possible for the operator to perform other duties. Unitized construction with flanged connections permits the plant to be assembled on integral bases in a few days.

Chemithon terms the price of the smaller sulfonation plants "competitive." The larger sizes are said to be much less expensive than batch plants.

In conclusion, then, the main contribution of the "Chemi-

thon" sulfonation system is the very short reaction times required. Total throughput time of 35 minutes is required for what the batch process would accomplish in five to six hours, according to the manufacturer. Short reaction time gives high conversion of alkane (0.8 per cent free oil on active basis), and minimizes reconversion or de-

gradation of product. High yields are thus achieved with alcohols. And good color and odor properties are possible with alkanes. Short reaction time permits remarkable economy in floor space.

Versatility, a high degree of automation, and reasonable cost are other advantages claimed for the "Chemithon" process.★

### Preventing Soil Redeposition with CMC

**C**ARBOXYMETHYLCELLULOSE is the only commercial detergent additive which effectively prevents soil redeposition on laundered cottons, according to an article by J. Stawitz and P. Hoepfner in the Nov. 12, 1958 issue of *Seifen-Oele-Fette-Wachse* (pp. 711-13).

Greying of cotton by redeposition can justly be termed a dyeing process, say these authors. Cotton is usually soiled by comparatively thick localized agglomerations which consist largely of insoluble pigment particles (silicates, soot, metallic oxides, pigments, soluble coloring agents, and oils and fats). This soil is removed and dispersed by the wash liquor. The dispersion is particularly fine where syndets are used. A small percentage of this finely dispersed soil is redeposited evenly and fixed firmly on the fabric. Like a true dyeing process greying is accelerated by elevated temperatures and by the presence of inorganic electrolytes. The grey color cannot be removed by washing or rinsing. Elimination of the greying phenomenon is both important and difficult.

The soil-carrying wash liquor is constantly agitated and pressed through the fabric as though a filter, but a filter which must not retain any particles, not even the small particles dispersed in a syndet solution which are most subject to adhesion. CMC, if correctly used, is the answer to this problem, according to the authors.

Discoloration was evaluated and traced in a series of experi-

ments with a Launder-o-meter. Soil redeposition is heaviest during washing and is continued during the rinse. CMC becomes effective only after about 15 minutes. Assuming correct choice of detergent substances and builders, the following points should be observed in the formulation of a laundry detergent incorporating CMC for minimum soil redeposition:

a) A brand of CMC must be selected, which is intended for laundry use.

b) The need for CMC increases with reduced surfactant content and with increased proportions of inorganic electrolytes (particularly soda, sodium chloride, and Glauber's salt). Polyphosphates do not take the place of CMC but boost its effect.

c) In synthetic detergent formulations CMC is needed to compensate for the greying effect of organic electrolytes.

d) In the case of soap products CMC is not absolutely necessary because the redeposition effect of electrolytes is less pronounced in such formulations. However, for maximum protection against discoloration CMC is indicated even in soap based laundry products.

e) CMC should be brought in contact with the wash at the earliest possible stage before the detergent has solubilized major quantities of soil. CMC is therefore most useful in the soak or prewash products.

f) "Starting time" of CMC depends on the proportions used; a high percentage takes effect more

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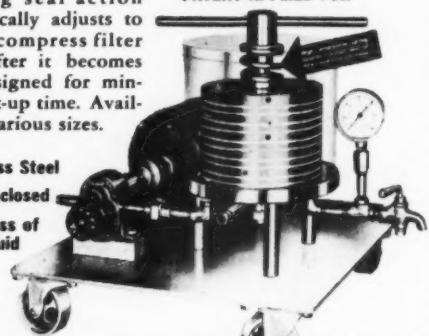
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rapidly than a smaller one. A fast acting laundry composition therefore needs a larger addition of CMC.

g) Most favorable CMC concentrations range between 0.05 and 0.3 gram/liter, according to the individual needs.

h) On fabrics affected by calcium salts or lime soaps CMC is ineffective. It can even be detrimental if applied in too small quantities (less than 0.04 grams/liter).

A steeping or soaking compound should contain enough CMC to insure the presence of from 0.05 to 0.07 grams of CMC in a liter of liquor.

"Instant" household laundry products which eliminate soaking should be formulated with enough CMC to achieve a 0.15 to 0.20 grams/liter concentration in the wash liquor. Where wash is placed in the hot liquor, concentrations should be even higher.

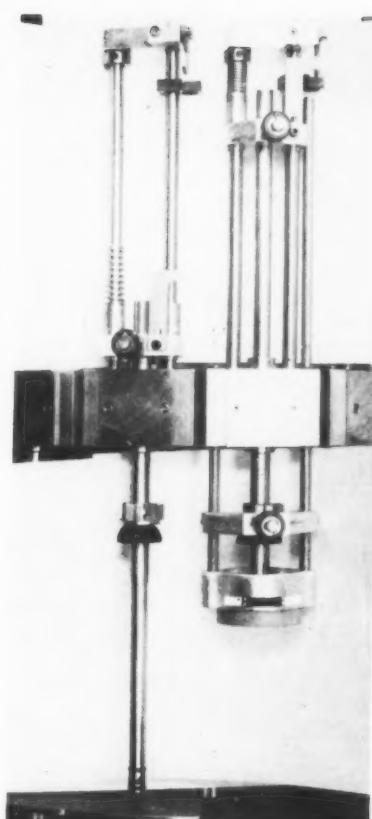
In commercial laundering the liquor in the first wash cycle should contain 0.2 to 0.3 grams of CMC per liter. If a solvent soap and an alkali mixture are used one half of the necessary amount of CMC should be incorporated in each. The following wash cycles require no more than 0.05 gram/liter.

So far it has not been possible to incorporate effective proportions of CMC in liquid detergents. However, it is easy to formulate CMC into laundry detergents in paste form. Optimum content is placed at about one tenth of the active detergent.

#### New Bottom-Up Filler

Filling of detergents and other liquids where foaming and aeration present a problem is said to be facilitated by a new "bottom-up" filling device just introduced by Karl Kiefer Machine Co. in Cincinnati, O. The machine incorporates a novel filling stem assembly, claimed to be dripless.

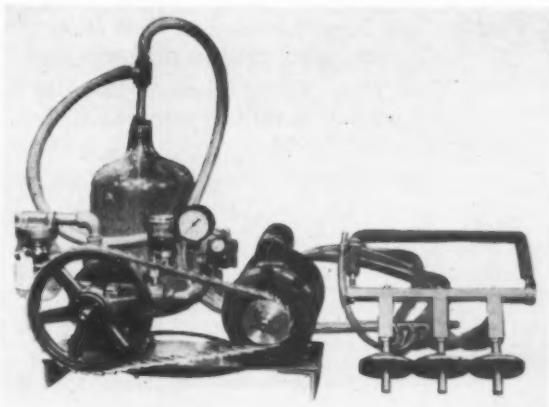
In preparing for the release of liquid an elongated section is cammed down almost to contact



the inside base of the container. The product flows through orifices just above the tip of the stem. During the filling cycle these orifices are immersed in the liquid. This arrangement prevents air entrainment and foaming. At the end of the operation the stem is retracted within a tube which is under vacuum. This obviates dripping from the stem after retraction from the container.

Kiefer claims the following advantages for its new machine:

Hand filling unit for small packages recently was added to line of Packer Machinery Corp., Brooklyn, N.Y. Available in vacuum or gravity operation, unit, designated Model PH-1 can fill all types of containers, maker says. It features stainless steel parts, clear plastic tubing, and interchangeable nozzles.



reduced foaming and air entrainment even in odd shaped containers; fill level adjustment during operation; high filling speeds.

#### Salicylaldehyde Bulletin

A new booklet on salicylaldehyde, its properties, uses, reactions, and toxicology, has just become available from the organic chemical intermediates sales department of Dow Chemical Co., Midland, Mich. A bibliography of reaction and use references is appended.

Derivatives of salicylaldehyde are used as ingredients in soaps, perfumes, and deodorants, and as disinfectants, preservatives and fungicides, as well as in other specialties.

#### Monsanto Revises Bulletin

A revised technical bulletin and use reference guide covering its sodium phosphate products was published recently by the inorganic chemicals division of Monsanto Chemical Co., St. Louis, Mo.

Many applications as well as technical descriptions of the physical and chemical properties of the various sodium phosphates are described in the bulletin. Information is included on the use of phosphates in soap and detergent manufacture for both household and industrial products. Sodium phosphates as deflocculating and buffering agents are also covered.

Copies of the bulletin are available upon request from the division, 800 North Lindbergh Blvd., St. Louis 66.



The Shell chemicals listed below are used in the manufacture of many important drugs and cosmetics.

## **Take a closer look . . .**

THIS portrait of a common garden flower, the petunia, shows how much more we may see in a familiar plant on close examination. Throughout the ages, flowers have been both an inspiration and challenge to scientists. Only recently have chemists succeeded in synthesizing pleasing perfumes that rival the fragrance of flowers.

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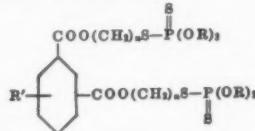
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# NEW Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication. Complete copies may be obtained by writing to the publisher of this magazine: — MacNair-Dorland Co., 254 W. 31st Street, New York 1, N. Y., and remitting 50c for each copy desired. For orders received from outside of the United States the cost will be \$1.00 per copy.

**No. 2,865,804. Pesticides.** patented by Abraham Bavley, Brooklyn, and Donald P. Cameron, Bronx, N. Y., assignors to Chas. Pfizer & Co., Brooklyn, N. Y. Patented is a compound of the formula



wherein n is one of the integers two and three, R is an alkyl group containing up to four carbon atoms, and R' represents from one to two substituents consisting of alkyl and alkoxy containing from one to four carbon atoms.

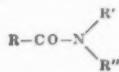
**No. 2,865,805. Quaternary Ammonium Naphthalene and Naphthol Sulfonates.** patented by Martin S. Frant, Ossining, and Sylvan I. Cohen, Flushing, N. Y., assignors to XX Gallowhur Chemical Corp., New York. This invention covers a water-insoluble chemical compound selected from the group consisting of quaternary ammonium naphthalene sulfonates and quaternary ammonium naphthol sulfonates, the quaternary ammonium moiety thereof containing four nitrogen-linked hydrocarbon groups one of which is a higher alkyl group, wherein alkyl represents a mixture ranging from  $\text{C}_6\text{H}_{13}$  to  $\text{C}_{12}\text{H}_{25}$  in which lanaryl, myristyl and cetyl radicals are the most active and predominant, two to three of said hydrocarbon groups being lower alkyl groups, and one of said hydrocarbon groups being selected from the group consisting of benzyl, alkyl-substituted benzyl and chloro-substituted benzyl and when three hydrocarbon groups are lower alkyl, the remaining hydrocarbon group is alkyl-substituted benzyl.

**No. 2,863,888. Process for the Production of Fatty Acid Hydroxy Amides.** patented by Jack Vair Schurman, Caldwell, N. J., assignor to Colgate-Palmolive Co., Jersey City, N. J. The patent teaches a continuous process for the preparation of fatty acid hydroxy amides of low ester-amide content which comprises mixing liquid

fatty acid ester of an alcohol containing up to about 5 carbon atoms with liquid hydroxy-alkyl amine, reacting said ester and amine in the presence of from 0.05% to 1% by weight based on alkali metal a catalyst selected from the group consisting of alkali metals, alkali metal alkoxides, and alkali metal amides at temperatures within the range from about 70° C. to 175° C., and immediately cooling the reaction product to a temperature below about 55° C., said cooled product containing at least about 0.05% by weight free catalyst calculated as alkali metal.

**No. 2,871,193. Shampoo Compositions.** patented by Hyman Henkin, Bayside, N. Y., assignor to Colgate-Palmolive Co., Jersey City, N. J. Described is a liquid shampoo composition consisting essentially of about 5 to 35% of a water soluble higher fatty acid monoglyceride monosulfate detergent and about 0.1 to 5% of a water soluble hydroxypropyl methyl cellulose in an aqueous medium therefore, the said cellulose derivative having a methoxy content of 25 to 32% and an hydroxypropoxy content of 2 to 10% and having a viscosity between 10 and 5,000 centipoises as determined at 2% solution in water at 20°C.

**No. 2,870,091. Detergent Composition.** patented by William F. Tomlinson, Clarendon Hills, Ill., Assignor to Stepan Chemical Co., Chicago. This patent discloses a liquid detergent composition capable of retaining relatively large amounts of inorganic detergent materials in stable aqueous solution consisting essentially of (a) diethanolamide of pelargonic acid; (b) higher fatty acid alkylolamide having the formula:



wherein R—CO—is a fatty acyl radical of 10 to 14 carbon atoms, R' is H or a hydroxylalkyl group of up to 5 carbon atoms and R'' is a hydroxylalkyl group of up to 5 carbon atoms; (c) alkali metal tripolyphosphate; and (d) an alkali in an amount sufficient to give a solution of the mixture, in ordinary concentrations for laundering, a pH of 8.8 to 10.7 and sufficient alkalinity to be compatible with the existence of the tripolyphosphate wholly as a non-acid normal alkali metal tripolyphosphate; the concentrations of the ingredients being:

- 1-10 weight percent of (a)
- 4-12 weight percent of (c) plus (d)
- 3-20 weight percent of (b)

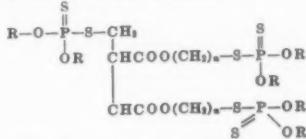
Remainder water  
with the weight ratio of (c):(d) being 1:20 to 20:1.

**No. 2,868,686. Iodine Bromide Preparations for Controlling Micro-organisms.** patented by Morris V. Shelanski, Atlantic City, N. J., and Murray W. Winicov, Philadelphia, assignors to West Laboratories, Inc., Long Island City, N. Y. A composition is covered for the control of

micro-organisms comprising a complex of iodine bromide with a surface active agent selected from the group consisting of anionic alkyl phenyl sulfonates and alkyl naphthyl sulfonates wherein the alkyl group has from 3 to 30 carbon atoms and nonionic polyoxyalkylene condensates, said complex containing 0.1 to 30% of iodine and 0.1 to 20% of bromine based upon the weight of said surface active agent.

In compositions for the control of micro-organisms which are complexes of iodine with nonionic and anionic surface active agents, the improvement is claimed that comprises substituting for the free iodine in such complexes iodine bromide in an amount to provide 0.1 to 30% of iodine and 0.1 to 20% of bromine based on the weight of said surface active agent, with the proportion of bromine to iodine being within the range from iodine mono-bromide to iodine tri-bromide.

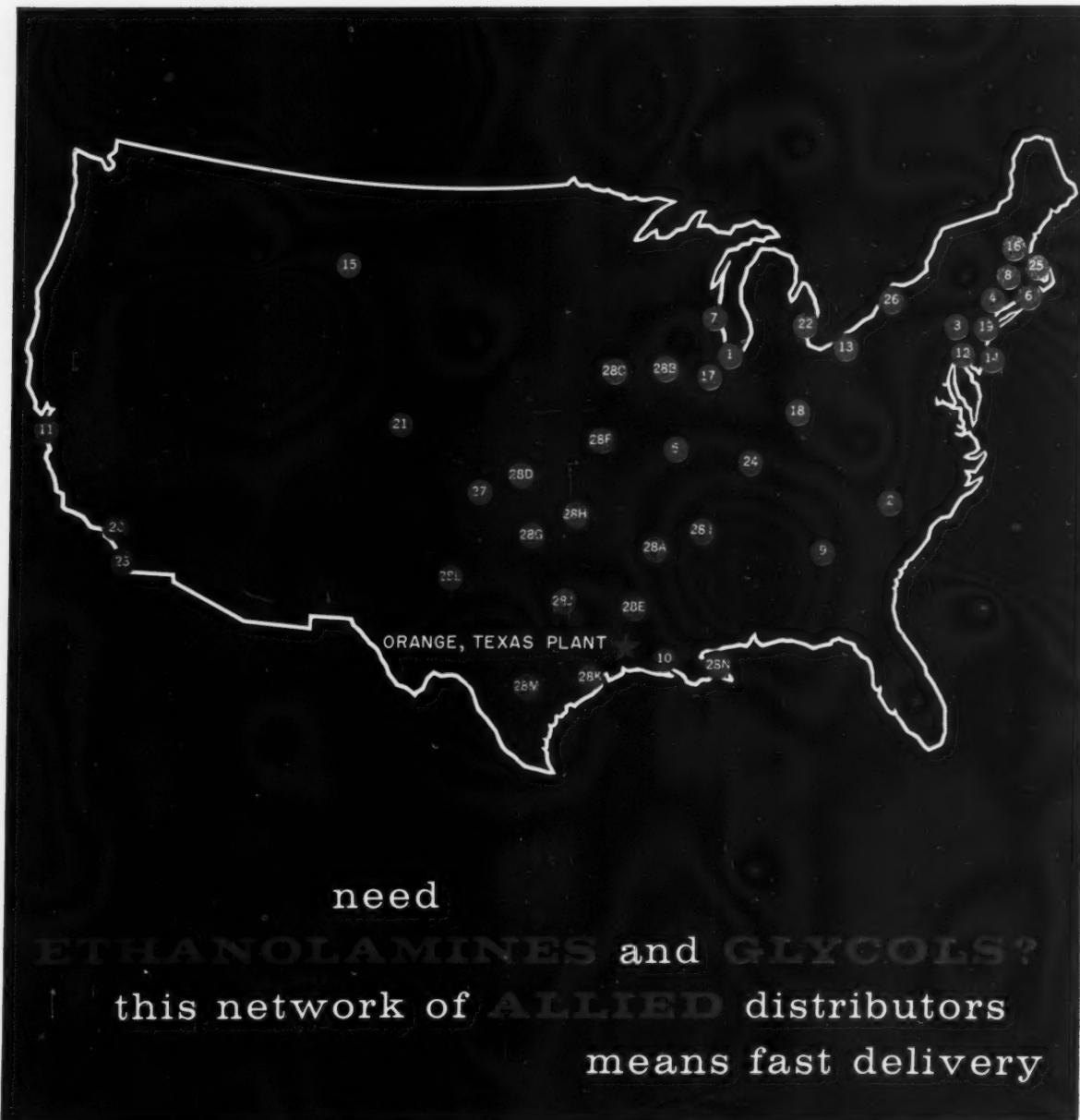
**No. 2,865,802. Pesticides.** patented by Abraham Bavley, Brooklyn, and Donald P. Cameron, Bronx, N. Y., assignors to Chas. Pfizer & Co., Brooklyn, N. Y. This patent reveals a compound of the formula



wherein n is one of the integers two and three and R is an alkyl group containing up to four carbon atoms.

**No. 2,868,731. Process of Making Nonsoap Detergent Bars and Product.** patented by Lloyd F. Henderson, Fair Lawn, and Francis E. Carroll, Glen Rock, N. J., assignors to Lever Brothers Co., New York. Revealed is a process for forming a nonsoap detergent bar which comprises mixing from about 11% to about 32% of a water-soluble alkali metal soap of an aliphatic higher fatty acid and a normally solid synthetic organic nonsoap detergent selected from the group consisting of anionic and nonionic synthetic organic nonsoap detergents with an aliphatic carboxylic acid having from about twelve to about twenty-five carbon atoms in an amount to plasticize the detergent at plodding temperature, and adjusting the moisture content of the resulting mixture not to exceed 5% by weight, bringing the mixture to a plodding temperature within the range of 100 to 200°F. so as to render it plastic and workable without liquefying it, and plodding the mixture in this plastic and workable condition to bar form.

**No. 2,864,769. Germicidally Active Soap Containing Silver Salt of Aromatic Sulfonic Acid.** patented by Garson A. Lutz, Columbus, and Robert E. Sharpe, Worthington, O., assignors by mesne assignments to Permacheem Corp., Palm Beach, Fla. Covered is a germicidally active soap composition comprising a water-soluble higher fatty acid soap and a germicidal amount of a silver salt of a sulfonic acid selected from the group consisting of benzene sulfonic acid selected from substituted benzene sulfonic acid.



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25. Plyco Products, Inc.—E. Boston, Mass.
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27. Southwest Gas Equipment Co.—Liberal, Kan.
28. Thompson-Hayward Chemical Co. (All offices listed below are Thompson-Hayward)
- 28A—No. Little Rock, Ark. 28B—Davenport, Ia.  
28C—Des Moines, Ia. 28D—Wichita, Kan. 28E—Shreveport, La. 28F—Kansas City, Mo. 28G—Oklahoma City, Okla. 28H—Tulsa, Okla. 28I—Memphis, Tenn. 28J—Dallas, Texas. 28K—Houston, Texas. 28L—Lubbock, Texas. 28M—San Antonio, Tex. 28N—New Orleans, La.

# Products and PROCESSES

## New Dow Amine

Dow Chemical Co., Midland, Mich., recently announced addition of aminoethylethanolamine to its amine products line. The compound is used as an intermediate in industrial detergents, emulsifiers, wetting agents, softening and waterproofing compounds. Other applications include metal cleaners and high pressure lubricants.

## Scale Formation in Soap

Scale formation may be caused in plodded toilet soap either by unsuitable composition of the fat charge or by faulty processing techniques. An excess of hard fats, such as tallow, will result in loss of plasticity and smoothness. Fatty acids for commercial, normally plodded toilet soap should have a solidification point ranging from 34° to 37°.

The coconut oil or palm oil content of the fat charge should not exceed 17 per cent. Salting out of these oils requires large quantities of sodium chloride. If they are used in excessive amounts the final product will have a streaky appearance and may tend to crack owing to unduly high salt content. For optimum shelf life and use properties, toilet soap should not contain more than 0.05 per cent salt.

Unequal moisture content of dried soap chips after silo storage is another threat to homogeneity of the soap mass, even after repeated milling. Over-dried soap residues mixed with fresh chips make for faulty soap structure.

The ribbon drier may yield unevenly dried chips if the cylinders are inaccurately fitted or the cooling water and steam pressure are irregular. Soap made from chips siloed in this condition will have a tendency to crack in use.

Imperfect plodder operation may play a part in scale formation.

A worn out plodder screw or temperature variations owing to faulty functioning of the pressure cone may cause scaling. G. Harding, *Alchimist*, published by N. V. Sluys Boechout, Boechout, Belgium, vol. XII, No. 11-12, pp. 193-195.

## Hospital "Staph." Answer?

Staphylococci resistant to antibiotics are vulnerable to an organometallic compound which may possibly supply the answer to the menace of "hospital staph." Organic silver or tin salts of a sulfinic acid, trade named "Permachem," were used in washing solutions and air filters in a 240 bed test area at Francis Delafield Hospital, Columbia Presbyterian Medical Center, New York. Walls and ceilings washed with "Permachem" solutions reportedly retained bactericidal properties for periods of six weeks. Bed sheets and blankets rinsed in the solutions showed similar residual bactericidal activity. Cotton and wool fibers were not adversely affected by the material.

Air filters containing the compound are claimed to kill 98 per cent of the air borne bacteria. Bacterial population in the hospital environment is said to be reduced by more than 80 per cent by these measures.

The large scale microbiological screening and the clinical experiment were carried out by a team of doctors associated with Columbia: Drs. Perry B. Hudson, Grant Sanger, and Edith Sproul. Results of the work were reported by Dr. Hudson in a paper presented at a medical meeting in Albany late last month. The doctors found no undesirable side effects of "Permachem." Cost of the protective treatment was 20 cents per bed per day.

A patent U. S. #2,864,769, was granted early this year and assigned to Permachem Corp., Palm

Beach, Fla., covering a germicidally active soap containing silver salt of aromatic sulfinic acid. A summary of the patent appears on page 139.

## Musk Odor Studied

Relationship between chemical structure and musk odor in indane derivatives is investigated in a paper by M. G. J. Beets, H. van Essen, and W. Meerburg, all of Polak & Schwarz, Holland. The paper has just become available as an English language reprint, having appeared originally in *Recueil des Travaux Chimiques des Pays-Bas*, T.77, No. 9/10, Sept. and Oct. 1958.

First in a series of publications dealing with structure and odor of musks, this work shows that in indane derivatives the presence of an acyl group and of two tertiary or quaternary carbon atoms as substituents in the benzene nucleus are the minimum requirements for musk odor. Such tertiary or quaternary carbon atoms may both be part of the non-aromatic ring or one of them may be introduced as a separate alkyl group. The position of the essential substituents seems to be of minor importance. The stronger musks are obtained when an acyl group and two quaternary carbon atoms are present.

A series of new indane derivatives exhibiting musk odor are described in this article. Ultra violet spectra of these compounds are tabulated and experimental work is described in detail.

## German Chemical Show

Applications by would-be exhibitors for space at the ACHEMA Congress and Exhibition scheduled for 1961 must be received by the sponsors not later than May 1, 1959. The 13th ACHEMA Chemical Engineering Exhibition will be held in Frankfurt am Main, Germany, June 9 through 17, 1961. Applications should be addressed to DECHEMA, Rheingau Allee 25, Frankfurt a. M.



## Everybody's preferred sanitizer!

The amazing germ-killing power of the HYAMINE quaternary germicides makes them the favorite sanitizers of everyone who must keep bacteria under control.

**HYAMINE 3500**, the new germicide, sanitizer and deodorant for liquid and powdered sanitizers, is especially formulated to provide high germicidal activity even in hard water.

**HYAMINE 10-X** and **HYAMINE 1622**, the original and still the only pure synthetic low-cost quaternary ammonium germicides, are widely used in the medi-

cal, pharmaceutical, public health, and other fields.

**HYAMINE 2389** is an economical, effective sanitizer, even under "adverse" conditions, for general sanitizing applications such as household detergents and janitorial use. It is also an effective algicide for keeping swimming pools free of algae.

Other reasons why HYAMINE sanitizers are everybody's favorites are their compatibility with non-ionic and detergent builders, their freedom from odor and their non-irritating qualities in "use" concentrations.

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COMPANY**

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SOAP and CHEMICAL SPECIALTIES

# Book Reviews

## Crawford Greenewalt Book

The relationship and interaction between individual and organization is the theme of a series of essays based on the McKinsey Foundation lectures given by Crawford H. Greenewalt, president of E. I. du'Pont de Nemours & Co. The lectures were given in 1958 at the Graduate School of Business of Columbia University. Their revised and elaborated version has been collated into a book entitled "The Uncommon Man."

Mr. Greenewalt's thesis is that all organizations, nations, societies and civilizations will prosper and advance only to the extent that they can encourage common men to perform uncommon deeds. Only thus will emerge the "Uncommon Man." What management can do to help his survival or emergence in a business organization is described in this book.

*The Uncommon Man* by Crawford H. Greenewalt, published by McGraw-Hill Book Co., New York, price \$4.00. Cloth bound, pp. 142 plus IX.

— ★ —

## New Monsanto Carboxyl

A new carboxyl, trademarked "Lytron 822," is described in an eight-page technical service bulletin issued recently by the surface coating resins department, plastics division, Monsanto Chemical Co., Springfield, Mass. Containing styrene copolymer, the carboxyl is soluble in either alkaline or organic systems and compatible with a wide range of natural and synthetic resins, Monsanto says. Available in commercial quantities, the free-flowing polyelectrolyte resin is 50 cents a pound in bulk.

William T. Watt, manager of surface coating resins sales for the division, stated that the new material has shown considerable promise as the alkali soluble component in self-polishing resin emulsion and wax emulsion floor dressings. It has application in floor polishes, cosmetics, toiletries, and

protective coatings. Features of the product, according to Mr. Watt, are its low molecular weight and properties typical of a good protective colloid, dispersing agent, pigment binder, and emulsifier.

A description of "Lytron 822" and methods for preparing solutions of it, including several floor polish formulations, are contained in the bulletin which is available from Monsanto in Springfield, Mass.

— ★ —

## Production Year Book

The second edition of *Yearbook for the Production Man* (*Jahrbuch fuer den Praktiker*) has just reached us from Germany. This pocket encyclopedia for the oil, fats, soaps, detergents, cosmetic, wax and other specialties industries is published by H. Ziolkowsky K. G., publisher of *Seifen-Oele-Fette-Wachse*, German soap and chemical specialties journal.

Like its predecessor issued in 1958, the yearbook is divided into three main sections: full length articles, formulas, and tables. A list of new perfume materials, a survey of new technical literature, and a buyers' guide are appended. Articles devoted to soaps and detergents include: "Soap and Syndet Bars—Performance Evaluation" by Kurt Lindner; "Synthetic Detergent Materials" by Hans E. Tschakert; "Industrial Uses of Detergents" by H. Manneck; and "Contributions to the Differential Analysis of Detergent Mixtures", by R. Wickbold.

An article by L. Ivanovsky deals with gloss measurements and standards for polishes, paints and other specialty products. A. Davidsohn is represented with a paper on sulfonation of alkyl benzenes.

Formulas and recipes cover three main product groups: soaps and detergents; cosmetics; and household and related specialties, including pressure packaged prod-

ucts. Tables offer a wide range of pertinent data useful for production and laboratory personnel. The recipes and tabular material are of potential usefulness to anyone with no more than a slight command of German.

The yearbook is packed with concise and practical information. This reviewer regards it as an exemplary publication of its kind.

*Jahrbuch fuer den Praktiker*, 1959, 336 pages, six by four and one quarter inches, flexible plastic covers, published by Verlag fuer Chemische Industrie H. Ziolkowsky K. G., Beethovenstr. 16, Augsburg, Germany, price DM 8.40.

— ★ —

## USDA Revises Handbook

The 1959 revision of Agriculture Handbook 120 titled "Insecticide Recommendations of the Entomology Research Division for the Control of Insects Attacking Crops and Livestock" is being issued by the U. S. Department of Agriculture to extension agents and others who guide farmers' pest control efforts. The book summarizes the Department's recommendations as of January 1, 1959. A number of insecticides said to represent marked advancement in pest control because of their greater effectiveness, less toxicity to workers applying them, or because they leave less persistent residues and reduce the period between application and harvest are also discussed.

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## Data on Ethylene Amines

A new 65-page publication entitled "Ethylene Amines" was published recently by Dow Chemical Co., Midland, Mich. The book is intended for use by research chemists and technical production personnel. Covered are ethylene amines and reaction products, their properties, uses, handling, storage, and other pertinent data. Property graphs, and a bibliography giving patent and use sources are included.

The wide range of applications of ethylene amines and derivatives includes detergents, cleaning compounds, automobile and floor polishes, etc.

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At Mantrose, this improved shellac starts with selected top-grade Indian seed shellac . . . scraped from its native twigs, washed, ground and sun-dried for shipment. Then Mantrose chemists and special equipment go to work!

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# News...

PEOPLE • PRODUCTS • PLANTS

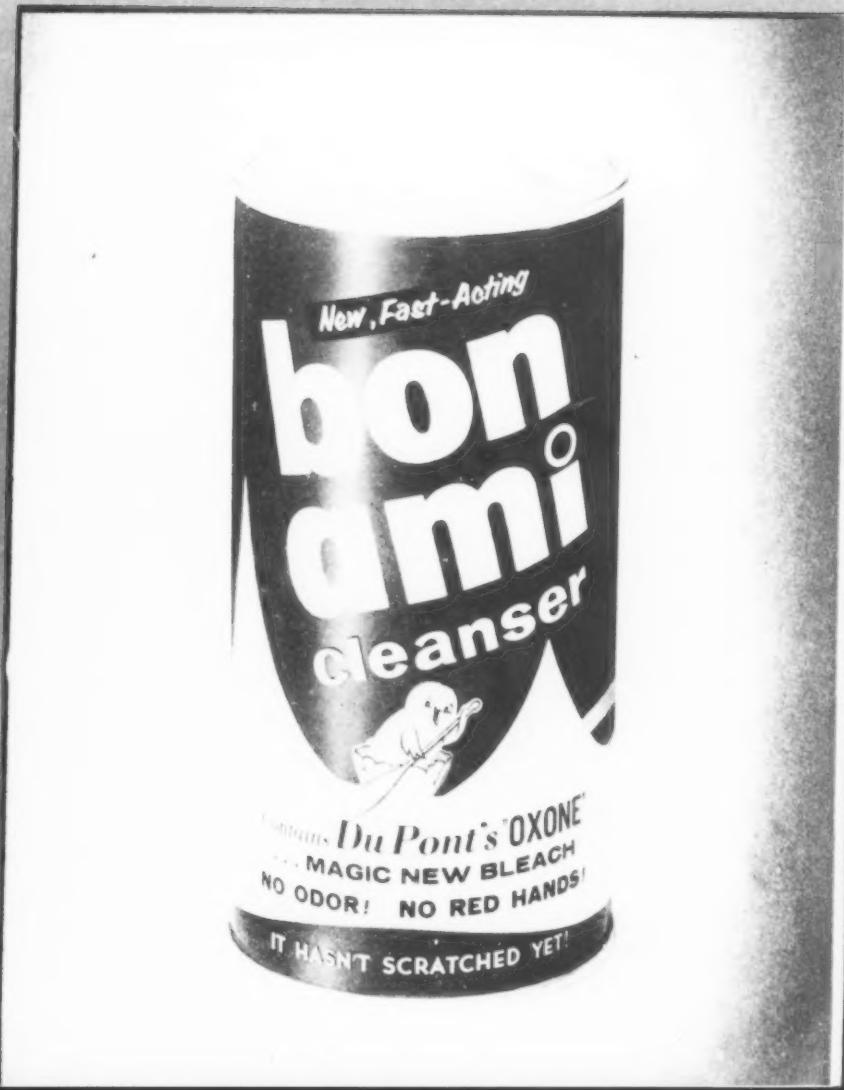
Max Graceman Dies

Wax Firm Answers FTC

Sodergreen in New Post

New Milner Division

First formula change in the 75-year history of "Bon Ami" was announced last month by Bon Ami Co., New York. "Oxone," a new powder bleach supplied by the Electrochemicals Department of E. I. du Pont de Nemours & Co., Wilmington, Del., has been added. New round style fibre can with metal bottom and top, with pre-punched holes, replaces traditional oblong can. Redesigned label retains chick but in a different pose.



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HD-90 helps you to build more suds into your detergent products than any other material at a competitive price. And more sudsing power means greater consumer acceptance.

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The uniqueness of Pilot's new standard of purity is in the *Cold Processing*: eliminated are the undesirable characteristics; built in are the cleansing and foaming character.

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Sulfonic Acid  
Dodecyl Benzene Sulfonates  
Sodium Toluene Sulfonate

# News

## Doran Joins Mennen

Jack Doran recently was appointed to the new position of director of marketing for Mennen



Jack Doran

Co., Morristown, N.J. Most recently director of promotion services for Lever Brothers Co., New York, Mr. Doran now has over-all direction and coordination of Mennen's domestic and Canadian sales, merchandising, advertising, promotion, market research, product development, and public relations. He also serves on the firm's management committee.

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## Duveen Marks 10th Year

Duveen Soap Co., Long Island City, N.Y., is observing its tenth anniversary this year with the addition of a new warehouse and new equipment, Denis I. Duveen, founder and president announced last month. The company was originally established in 1933 as the Reinitz Soap Co. and was acquired in 1949 by Mr. Duveen. It specializes in private label soaps for such firms as Revlon, Avon, Coty, and Faberge.

This year Duveen is doubling its steam production with the installation of an additional "Cyclotherm" boiler and is tripling its plant capacity with a new soap drier from Meccaniche Moderne, Italy. A new and modern one story

warehouse with 3,000 square feet of floor space is currently under construction and is scheduled for completion by the end of June.

## Fuller Elects Director

E. W. Joy, who began the first branch in Salt Lake City, Utah, of the Fuller Brush Co., Hartford, Conn., has been elected as director. Howard A. Fuller, president, announced last month. Mr. Joy, who retired in February as manager of Fuller's mid-west division, joined the company in Oakland, Calif., in 1917 as a door-to-door salesman.

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## Simoniz Names Shropshire

R. C. Shropshire, executive vice-president of Simoniz Co., Chicago, has added the duties of general manager of the Simoniz Products Division, it was announced last month by Elmer Rich, Jr., president. The appointment was part of a realignment of the company's organizational structure which included the naming of R. P. Fox as vice-president and general manager of Simoniz, Ltd., Canada; the election of Scott Campbell as vice-president and general manager of the Clad-Rex Corp. division, producer of pre-finished metals; and the appointment of B. G. Miller as vice-president and managing director of the Simoniz overseas division.

R. C. Shropshire



## New Milner Division

Dumas Milner Corp., Jackson, Miss., recently established a department store division to extend



William F. Holmes

distribution of its products through department, hardware, variety chain and syndicated outlets in the United States and Canada. William F. Holmes, formerly head of Holmes Products Co., Mobile, Ala., which was recently acquired by Milner, has been appointed sales manager of the new division.

The unit is the third to be formed by the company in recent months to complement its grocery division. The other two were the foreign operations division and the Taylor Laboratories (drug) division.

Howard S. Cohoon, Dumas Milner president, noted that continued national advertising and an increasing line of products have opened up new retail channels for the marketing of the company's line.

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## Permatex Names Adv. Mgr.

Mildred Nordlinger has been appointed advertising manager of Permatex Co., Huntington, N.Y., manufacturers of industrial, automotive, marine, and aviation repair and maintenance chemicals.

Formerly assistant to the

merchandising director, Mrs. Nordlinger is now responsible for coordination of all the company's sales promotion activities. She has been with Permatex since 1956.

#### Wax Firm Hits FTC Charge

Continental Wax Corp., Mount Vernon, N. Y., last month denied Federal Trade Commission charges that it allegedly misrepresented the durability of its "Continental Grip-Kote Carnauba Six Month" floor wax and declared that the product will last for six months under ordinary circumstances, as claimed in advertising. The F. T. C. complaint was filed Jan. 16 (see page 20, *Soap and Chemical Specialties*, February).

In answering the charge, Continental officials Lee Hall, Herbert Heller, and Jack Heller, asserted that they were the "victims—rather than the authors—of unfair methods of competition and unfair trade diversion." They claimed that two or more of Continental's larger competitors have stirred up a "private controversy" and have sent "so-called tests and/or consumer reports" of Continental's product to government agencies, Better Business Bureaus, advertising media, and customers. Continental further charged that these competitors have capitalized on the FTC complaint by disseminating copies of it and the press release accompanying it to various groups.

#### Adopts Plastic Jars

Surgical soap dispensers made by Huntington Laboratories, Inc., Huntington, Ind., are now equipped with unbreakable plastic jars, instead of glass, Earl Brenn, vice-president, announced last month. Although the plastic jars are more expensive, Mr. Brenn noted that the price of the soap dispenser unit would not be increased.

Available as replacements for glass jars currently in use, the plastic jars are being sold for 75 cents each, delivered.

#### Davies-Young Names Fink

William C. Fink has been appointed sales promotional representative for Davies-Young Soap



William C. Fink

Co., Dayton, O., R. H. Gildner, sales manager, announced last month. In his new position Mr. Fink works with sanitary supply distributors in promoting the sale of the firm's "Buckeye" chemical specialties line. He covers western Pennsylvania and West Virginia. Mr. Fink joined Davies-Young in

February after two years of service in the army.

#### New Rohm & Haas Syndet

Rohm & Haas Co., Philadelphia, recently introduced a new detergent for metal cleaning in soak tanks. Designated "Triton QS-15," the product is available in commercial quantities to detergent formulators. It is said to combine detergent action with solubility in relatively high concentrations of alkaline cleaners, while at the same time maintaining chemical stability in strong caustic.

According to Carlos Kampmeier, manager of the company's agricultural and sanitary chemicals department, "Triton QS-15" is amionic under alkaline conditions and cationic under acid conditions and thus amphoteric. Other features of the product, Mr. Kampmeier stated, are that it is 100 per cent active. Range of applications include highly alkaline household, institutional, and industrial cleaners; detergent compounds for washing bottles; and steam cleaning compounds.

Gordon S. Bodek, left, executive vice-president, Bobrick Dispensers, Inc., Los Angeles, accepts a gold plaque on behalf of the company in recognition of its winning first place in the 1958 competition of catalog aids for distributors. Making the presentation on behalf of the National School Supply and Equipment Association is W. S. Bercher, chairman of the association's advertising committee. Twenty-eight national firms entered the competition which was judged by a school administrator, business manager, parochial school representative, and a catalog expert. Bobrick's material included individual model and full line catalog inserts, glossy photographs, electrotypes, suggested copy, and layouts.



### DuBois Purchases Building

DuBois Co., Cincinnati, manufacturer of cleaning compounds for industrial and institutional use, purchased a six story building at 634 Broadway in that city last month which it intends to remodel for its own executive and general offices. Present offices at 1120-40 Front St., will be converted to manufacturing use when the move to the new quarters is made late next month. The newly acquired building has 49,000 square feet of floor space and the property has room for off-street parking.

Purchase of the building is one part of an over-all expansion program by DuBois which includes a new plant in Dallas, Tex., and enlargement of operations in Los Angeles. A new plant was completed last year in East Rutherford, N. J., to serve New York and the eastern states area.

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### New Version of "Raid"

"Raid" insecticide made by S. C. Johnson & Son, Inc., Racine, Wis., is now available unperfumed. "Deodorized Raid" is designed for applications where there is a problem of contamination by aromatics normally used in insecticide formulation. Designed for controlling roaches and other crawling insects, the new version of "Raid" comes in five, 30 and 55 gallon containers, and is dispensed by a mechanical sprayer.

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### Model Antifreeze Bill

Final wording for a model antifreeze statute prepared by the antifreeze committee of the Automotive Division of the Chemical Specialties Manufacturers Association, New York, was approved last month by the association's legal counsel. It is being sent to those states expressing an interest in this type of legislation.

Subjects included in the model law are: definitions; adulteration; misbranding; an act to be administered by (a state official); registration; submission of a form-



The first commercial tandem trailer set-up to travel the New York Thruway with an actual pay-load carried over 70,000 pounds of household cleaning products manufactured by B. T. Babbitt, Inc., New York. Inspecting one of the 1,500 cases in the load are, left to right, John Ryan, driver for John Vogel, Inc., Albany, N. Y., trucker which hauled the load, Walter G. Condon, director of transportation, and Robert L. Kob, vice-president, of Babbitt. Eighty-eight feet in length, ten feet shorter than the Thruway Authority permits, the unit is made up of two semi-trailers known as double-bottom units. Capacity of the set-up is 40 tons. The initial run, made last month, was from Albany to New York.

ula to (the state official); enforcement; violations; separability; and exclusive jurisdiction.

Copies of the model law are available upon request from CSMA, 50 East 41st St., New York 17.

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### Sodergreen in New Post

Axel L. Sodergreen last month joined Oil Specialties and Refining Co., Brooklyn, as technical adviser for laboratory, manufacturing and sales. Previously he was with Zoe Chemical Co., Queens Village, N.Y., makers of "Bonnie Brite" floor wax and other household chemical specialties. Earlier he has been director of production, control and research

for West Disinfecting Co., now West Chemical Products Co., Long Island City, N.Y. Mr. Sodergreen also had been associated with Manton-Gaulin Manufacturing Co., Everett, Mass., and Pease Laboratories, Inc., New York. A chemical engineer by profession, he has specialized in production control, standardization, and research and development for soaps, detergents, floor waxes, disinfectants and insecticides.

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### Lever Earnings Increase

Net earnings of Lever Brothers Co., New York, increased by 71 per cent last year over 1957 and sales were at a record high for the second consecutive year.

Net profits amounted to \$10,100,000, compared with \$5,900,000 in 1957 and sales were \$382,600,00, 11 per cent higher than the 1957 total of \$345,000,000.

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### NJPCA Holds Meeting

A joint meeting of the New Jersey Pest Control Association and the Newark, N. J., Health Department was held in Newark last month. Featured speaker was Professor John B. Schmitt of Rutgers University, New Brunswick, N. J., who spoke on "The Phenomenon of Insect Survival through Resistance to Chemicals."



# CONCLUSIVE EVIDENCE OF THE SUPERIORITY OF CAUSTIC CLEANING FORMULATIONS CONTAINING GLUCONATES!

If you compound caustic washing or cleaning formulations, you should put Pfizer Gluconates on trial in your formulas. Judge for yourself the economy and superiorities of caustic-gluconate formulations. Overwhelming evidence also shows that Pfizer Gluconates are stable, both in storage and in use, in caustic compounds.



## EXHIBIT A

ONE SPARKLING CLEAN BOTTLE—The inclusion of Pfizer Gluconates in your formula will assure bottling customers of a compound which will give spotless results. Pfizer Gluconates have proven to be the product of choice for preventing formation of film on bottles and scale on equipment.

## EXHIBIT B

ONE BRIGHT STRIP OF ALUMINUM—Pfizer Gluconates in your aluminum etching compounds prevent the formation of hard, adherent scale. Both Sodium Gluconate and Gluconic Acid increase caustic efficiency—you use less in your compounds yet assure your customers of a more uniform etch.

## EXHIBIT C

ONE DE-RUSTED BOLT—Superior caustic rust removal compounds are now possible through the inclusion of Pfizer Gluconic Acid or Sodium Gluconate. In caustic solutions Pfizer Gluconates dissolve rust and prevent after-rust while increasing the efficiency and prolonging the life of the bath.

## EXHIBIT D

ONE SHINY PIECE OF STEEL—Pfizer Sodium Gluconate and Gluconic Acid improve the effectiveness of your caustic paint stripping compounds by eliminating the usual brown layer of iron hydroxide. Also they permit freer rinsing of the paint-stripped metal.

# THE VERDICT

The verdict is unanimous—Pfizer Gluconic Acid and Sodium Gluconate assure you of compounds with the highest cleaning and etching efficiency. Write Pfizer for complete technical data and information on the proper Gluconate use levels.

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## Colgate Completes Acquisition of Wildroot

COLGATE-Palmolive Co., New York has announced that it completed negotiations for the pur-

management. Robert E. Schwartz continues as general manager.

An agreement in principle



C. Guy Grace



Robert E. Hilbrant

chase of Wildroot Co., Buffalo, N. Y. Wildroot now operates as a subsidiary of Colgate and continues to manufacture its products at the Buffalo plant with marketing operations taken over by Colgate's toilet articles division.

C. Guy Grace, vice-president and general manager of the division, has been elected president of Wildroot. Other new officers are: Robert E. Hilbrant, vice-president, and Hugh Jewett, vice-president and secretary. Both are Colgate vice-presidents, and Mr. Jewett is also secretary of the company. Edward J. Pempell has been elected treasurer. He was vice-president and comptroller under the previous

for the purchase was reported by the two companies in December, whereby all outstanding shares of Wildroot stock were expected to be exchanged for Colgate stock upon completion of the Wildroot year-end audit.

Soon after the acquisition Colgate withdrew the Wildroot hair preparations account from Batten, Barton, Durstine & Osborne, Inc., New York advertising firm which handled Wildroot's advertising for about 30 years.

Wildroot employs approximately 250 people at its Buffalo plant and has a Canadian subsidiary at Fort Erie, Ontario. Its "Wildroot Cream Oil Hair Tonic" is said to be the largest selling hair tonic in the United States.

Albert E. Ritchie has been named manager of the Wildroot department of Colgate's toilet articles division and is responsible for coordinating the marketing of all Wildroot products. He was previously vice-president — marketing for Wildroot Co.

Hugh Jewett



the Tall Oil Products Division of the Pulp Chemicals Assn., 122 E. 42nd St., New York 17, N.Y. The folder, which bears the title, "Tall Oil in Synthetic Detergents," carries information on the market for synthetic detergents, the principal types of synthetic detergents, and also discusses polyoxyethylenes and esters. Copies of the folder are available.

### Wyandotte 1958 Sales Off

Although sales and earnings of Wyandotte Chemicals Corp., Wyandotte, Mich., declined slightly last year, compared with 1957, they were still the second highest in the company's history.

Total sales in 1958 amounted to \$82,116,603 and net profit was \$2,902,642. Comparable figures for 1957 were \$85,028,009 and \$4,775,157. Earnings per common share last year were \$1.67, as against \$2.98 in 1957.

### Pilot Appoints Yocom

Richard W. Yocom was recently appointed eastern representative with headquarters in Chicago for Pilot California Co., Los Angeles. In his new post Mr. Yocom directs the distribution and marketing of Pilot's line of high active alkyl aryl sulfonates, hydro-tropic solvents, and sulfated non-ionics from Chicago and warehouse points in St. Louis, Cincinnati, and New York. He had previously been with the soap and detergent division of Swift and Co., Chicago.

Richard W. Yocom



### Tall Oil in Syndets

The role of tall oil in the manufacture of synthetic detergents is discussed in a six-page folder now being distributed by

**FRITZSCHE'S**

**RESINOIDS**

**EXTRA**

**NOW... IMPROVED FRAGRANCE AND FIXATION  
AT ATTRACTIVE LOWER COST...**

**BENZOIN SIAM**

**GALBANUM**

**LABDANUM**

**MYRRH**

**OLIBANUM**

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**TOLU**

Lower prices for these superior "EXTRA" grade RESINOIDS have been made possible by improved manufacturing techniques and substantially increased production. Made from selected high quality materials, they represent the pure, natural odor of the corresponding gum with nothing added aside from a minimum of odorless solvent for proper fluidity and ease of handling. They are clear, homogeneous liquids, highly viscous and completely soluble. Manufacturers of soaps, sachets, powders and other perfumed products can now enjoy the added advantages of these highly concentrated materials—their finer fragrance and fixation—and still keep within reasonable limits of cost. Write for test sample and observe the difference!



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### **Colgate Names Eldridge**

William Eldridge has been appointed product manager in the household products division of



**William Eldridge**

Colgate-Palmolive Co., New York. W. T. Miller, division vice-president, announced last month. Formerly an account executive for package goods at Leo Burnett Co., New York advertising agency, Mr. Eldridge is now responsible for advertising and merchandising of "Vel" powder and "Super Suds," working under the direction of D. A. Wells, general products manager.

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### **Fine Organic Names Rep.**

The appointment of Jim Raney of R & M Sales Co., Denver, as sales agent in Colorado and Wyoming for Fine Organics, Inc., Lodi, N. J., was announced last month.

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### **Wyandotte Glycol Plant**

Wyandotte Chemicals Corp., Wyandotte, Mich., has completed the rebuilding of its ethylene oxide-glycol plant near Baton Rouge, La., which was disabled by an explosion and fire last November, and the facility is currently on stream. Located 25 miles south of Baton Rouge at the company's new Geismar, La., manufacturing center, the ethylene oxide-glycol plant was the first unit in the center to go into operation last June.

The plant utilizes oxygen for the oxidation of ethylene in the manu-

fature of ethylene oxide and was the first unit of its type to go into production.

— ★ —

### **Stanley Appoints Sisco**

Joseph Sisco has been appointed manager of the newly established material control department of Stanley Home Products, Inc., Westfield, Mass., it was announced last month by William H. Naylor, vice-president for distribution. In his new post Mr. Sisco supervises the overall stock and warehousing requirements of the 18 Stanley distribution stations throughout the country.

With the company since 1940, he was most recently assistant to Mr. Naylor and has served successively as manager of Stanley distribution centers in Seattle and Dallas.

— ★ —

### **Aloe Creme Names PR Head**

Janice K. Flagg has been appointed public relations director of Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla., it was announced recently by Rodney M. Stockton, president.

Assistant public relations director for the Daytona Beach Resort Area for the past two years, Miss Flagg's new duties include direction of all the firm's local and national public relations functions as well as the placing of publicity in various media. She also serves as beauty consultant for Aloe Creme's cosmetic line.

**Janice K. Flagg**



### **Perry to Lukens Labs.**

Reginald P. Perry has been appointed vice-president of Lukens Laboratories, Inc., Newton, Mass.,



**Reginald P. Perry**

and its associated company, Skinner and Sherman Co., Inc., Boston.

With UBS Chemical Corp., Cambridge, Mass., for the past 17 years, Mr. Perry was director of marketing for domestic and export sales and was a member of the executive committee. In his new position he coordinates and directs the consulting services and research and development activities at Lukens and the analytical testing services of Skinner and Sherman.

— ★ —

### **New Aromatic Fragrance**

A new fragrance, "Gloralia," was introduced recently by Aromatic Products, Inc., New York, for use in chemical specialties, liquid soaps and detergents, toiletries and cosmetics. "Gloralia" can be used in aerosol products. Price in five pound lots is \$3.50 per pound. Aromatic Products, 325 Fourth Ave., New York 3, offers a one pound trial quantity at the five pound price.

— ★ —

### **Michigan Appoints Bush**

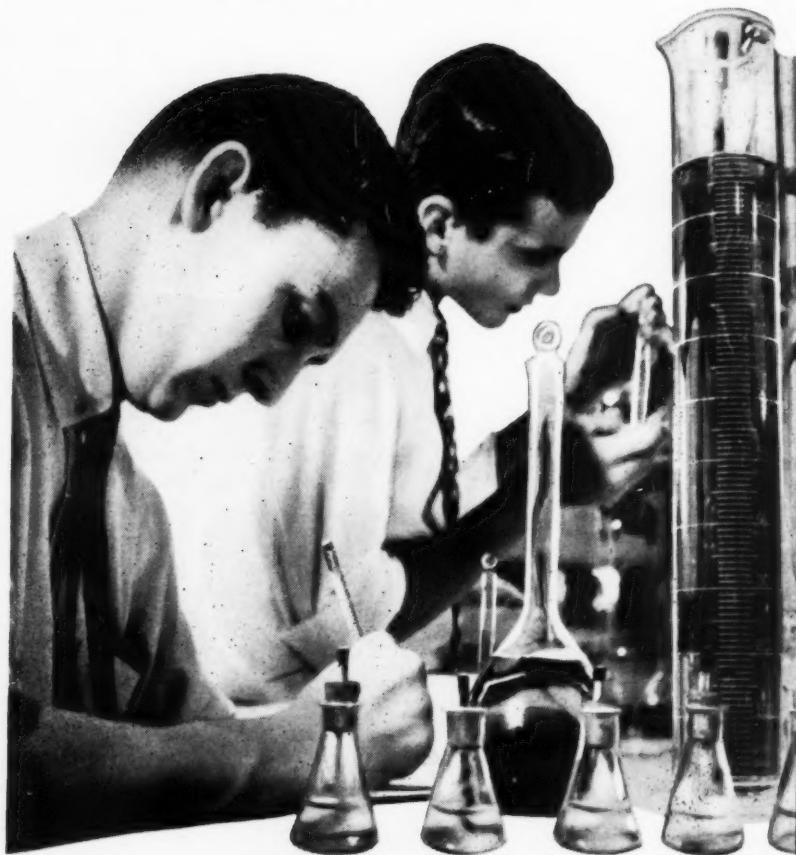
Russell M. Bush has been named product sales manager of the calcium chloride division of Michigan Chemical Corp., Saint Louis, Mich. He replaces B. C. Tiney who recently retired from the company after 20 years service but continues as a consultant.

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### Cos. Chems. to Honor Blank

Dr. Irvin H. Blank has been chosen to receive the 1959 special award of the Society of Cosmetic Chemists.



Dr. Irvin H. Blank

Chemists at the group's spring meeting to be held May 7 at the Commodore Hotel, New York. The award, presented annually, carries a prize of \$1000. Dr. Blank is an associate in dermatology at the Harvard Medical School and associate biochemist at the Massachusetts General Hospital. He is honored in recognition of his fundamental research and writings on "Factors Controlling Suppleness and Flexibility of Skin." He was among the first to recognize, demonstrate and publicize the fact that moisture is the primary factor in keeping skin soft and smooth. Dr. Blank has conducted research into the cutaneous action of soaps and synthetic detergents and on the control of the bacterial flora of the cutaneous surface.

The spring meeting of the society at which the award will be presented will feature, among others, papers on measurement of skin moisture and degreasing activity of toilet soaps.

—★—

### Snell Completes Tests

The completion of a program for testing samples of finishes for maple, beech, and birch floors for conformance to Maple Flooring Manufacturers Association specifications of Sept. 1, 1958, was announced recently by Foster D. Snell, Inc., New York, official testing

laboratory for the MFMA. A total of 158 products were tested and 34 of the samples submitted failed in one or more of the requirements.

The products which conform to the specifications have been placed on the 1959 approved list issued by MFMA which is effective for three years. The Snell organization continues to accept floor finish samples for testing which will receive MFMA approval when they are certified. Additions to the approved list will be issued by the association only at the end of each year during the three year approval period.

Copies of the approved list are available from the association, Suite 548, Pure Oil Building, 35 East Wacker Dr., Chicago 1.

—★—

### BIMS Announce Golf Dates

Golf tournament dates for 1959 were announced recently by BIMS of New York. Four tournaments will be held at the following clubs: June 11, Knoll Golf Club, Boonton Manor, N. J.; July 21, Winged Foot Club, Mamaroneck, N. Y.; Aug. 25, Wheatley Hills Club, E. Williston, L. I.; and Sept. 15, Wykagyl Country Club, New Rochelle, N. Y.

—★—

### John Stauf Dies

John Stauf, 66, northeast district manager, chemical department of McKesson & Robbins, Inc., died March 10 at Brooklyn (N. Y.) Hospital. With the company since 1952, Mr. Stauf had previously been associated with Solvay Process Division, Allied Chemical Corp., New York, as executive assistant to the president.

New mop for cleaning toilets, lavatories, urinals, and bathtubs, was announced recently by Zelinkoff Co., Wichita, Kans. Mop, tradenamed "Kleen-Puff," is made of flat molded one-piece plastic handle and connector. When yarn is affixed to connector it forms ball or puff.



### Hooker Names Ferguson

James W. Ferguson has been advanced to manager, field sales, for Durez Plastics division of



James W. Ferguson

Hooker Chemical Corp., Niagara Falls, N. Y., Alfred W. Hanmer, Jr., division sales manager, announced last month. With Durez since 1931, Mr. Ferguson was formerly assistant product manager, industrial resins.

—★—

### Wyandotte Wage Pact

Wyandotte Chemicals Corp., Wyandotte, Mich., and the Oil Chemical, and Atomic Workers, AFL-CIO, and its Local 11267 signed a two year contract last month which covers the 1,700 hourly employees of the company's Michigan Alkali Division in Wyandotte.

The new agreement calls for wage increases ranging from 7.5 cents to 10 cents per hour and an automatic eight cent increase on Mar. 1, 1960. A cost-of-living index is also incorporated in the agreement.



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### **UBS Builds Plant, Lab**

UBS Chemical Corp., Cambridge, Mass., recently broke ground for the construction of a polymer development laboratory and a small scale production plant at Marlboro, Mass. The installation is scheduled for completion in June. At a ceremony marking the ground breaking, attended by company and Marlboro City officials, Paul W. Atwood, president, officially turned the first spadefull of earth.

The new buildings will be located on an 18 acre site in the Massachusetts Industrial Center and the new production plant will contain a multiple number of reactors and storage facilities. Although major production will continue at the company's Cambridge plant, the new installation will increase new product development and will provide new equipment and laboratory facilities.



Paul W. Atwood, president of UBS Chemical Corp., Cambridge, Mass., uses "back hoe" at ground breaking ceremonies to mark beginning of construction of new polymer laboratory and pilot plant being built by UBS in Marlboro, Mass.

for 37 products, with the largest amount, \$4,489,920 being spent to promote going "Zest," a synthetic detergent toilet bar.

Largest expenditure for a single brand was for "Lestoil" household cleaner. Adell Chemical Co., Holyoke, Mass., spent \$12,339,090 in spot television advertising for "Lestoil."

### **Drew Buys Two Firms**

E. F. Drew & Co., New York, processor of vegetable oils and vegetable oil products, has purchased Malaga Oil Products Co., Lindsay, Calif., and Strathmore Oil and Fat Co., Strathmore, Calif. D. A. Coape-Arnold, Drew executive vice-president, announced recently. Under the acquisition, Malaga becomes the Malaga Oil Products division of Drew and Strathmore is a wholly owned subsidiary operating as Strathmore Vegetable Oil Co.

John M. Hagerty, sales manager of Drew's agricultural division, has been given the additional duties of general manager of west coast operations. James Fowler,

formerly associated with the newly acquired firms, continues as manager of the two operations.

According to Mr. Coape-Arnold, the acquisition provides expanded production and more efficient service to Drew's west coast customers. Plans are underway to enlarge the new facilities.

### **Beach Licenses Blackford**

H. L. Blackford, Ltd., Montreal and Toronto, Canada, manufacturing chemists, has been licensed by Beach Soap Co., Lawrence, Mass., to manufacture and distribute Beach laundry products in Canada. Included in the line are "Prime Sohp," "Hycon" dry bleach, "Phosrite" soap activator, and similar products which have been developed by Beach.

The Canadian firm has been manufacturing and selling industrial chemicals to the metal working, rubber, paint, and textile industries for more than 35 years. Through the licensing arrangement Beach products will now be available throughout Canada through Blackford distributors.

### **P&G Tops in Spot TV Ads**

Procter & Gamble Co., Cincinnati, was the leading spender last year for spot television advertising, according to the Television Bureau of Advertising, Inc., New York. Expenditures of \$33,833,060 were \$8,000,000 larger than the 1957 figure. This total was spent



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Although Menthanyl Acetate lends itself well to the creation of many bouquets, its use in artificial bergamot, petitgrain, and lavender is specifically suggested by its resemblance to linalyl acetate.

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*SOAP and CHEMICAL SPECIALTIES*

### **Butler Lever Media Mgr.**

Richard C. Butler has been appointed broadcast media manager for Lever Brothers Co., New York,



**Richard C. Butler**

it was announced last month by Howard Eaton, Jr., media director. Also named was Joseph W. Daly as assistant broadcast media manager. He had been a media buyer for Lever since 1952.

Formerly an account executive with A. C. Nielsen Co., Chicago, handling networks, advertisers, and agencies, Mr. Butler assumed his new post early in April. He had been with Nielsen since 1947.

—★—

### **Plans Begin for NHE**

Plans are underway for the 44th National Hotel Exposition which will be held Nov. 2-6 at New York's Coliseum. This year the event will take up four floors instead of the usual three and will feature such "spectaculars" as a "Room of Tomorrow" and "Designs for Dining."

### **Bactericides**

(From Page 57)

solubility in slightly alkaline solutions. Another similarity is the need for three or four launderings with a bacteriostatic detergent to achieve optimum bacterial activity. This points to a build-up in the textile similar to that known to occur on the skin after repeated

washings with deodorant soaps. This parallelism in requirements makes it appear permissible to apply certain knowledge gained in textile detergent use to the formulation of deodorant soaps. We found a wide variation in the performance of a given bacteriostat in different synthetic detergents and in soap formulations. Possibly deodorant toilet bar formulations tailored expressly as optimum vehicles for a given bacteriostat might yield a superior product.

The major bacteriostats suitable for use in laundry detergents are hexachlorophene, trichlorocarbanilide, and tetrachlorosalicylanilide (See Figure I). A few years ago Armour & Co., as disclosed in several foreign patents, discovered that mixtures of trichlorocarbanilide and certain bisphenols functioned synergistically. This synergism of antibacterial activity is extremely obvious when such combinations are used in laundry detergents. Table I summarizes some data from the conventional agar plate method showing that mixtures of hexachlorophene and trichlorocarbanilide are strikingly more effective than any single bacteriostat in use today.

In conclusion, we have bacteriostatic agents that can be used in laundry detergents to impart demonstrable anti-bacterial properties to laundered articles. Properly designed experiments, simulating use conditions, can demonstrate that this bacteriostatic activity offers the consumer measurable, practical benefits: fresh, sweet-smelling wash that will remain so in use, and better personal hygiene.

### **References**

1. Majors, Paul A., Evaluation of the Effectiveness of Antibacterial Finishes for Cloth. Paper presented at October, 1958 meeting of American Association of Textile Chemists and Colorists.
2. Hurst, V., Grossman, M., Ingram, F., Lowe, A.: Hospital Laundry and Refuse Chutes as a Source of Cross-Infection. *Journal Am. Med. Assoc.* 167:1223-1229 (1958).
3. Gump, W. S. & Vicklund, R. E.; G-11 (hexachlorophene USP) For Control of Staphylococcal Infections. *Sindar Reporter #3-1958*, Sindar Corp., New York, N. Y.

### **Breck Advances Three**

Three advancements at John H. Breck, Inc., Springfield, Mass., were announced last month by



**John P. McDonnell**

Thomas M. Glynn, plant manager.

John P. McDonnell has been advanced to assistant chief manufacturing chemist and is now responsible for the line supervision of the manufacturing department.

William L. Burlingham is now supervisor of all warehouse activities. Formerly shipping supervisor, he has been with Breck since 1945.

New assistant traffic manager is Arthur C. Robertson who has been with the company since 1945. He is now responsible for the supervision of the Breck shipping operation.

### **Witco Merges Emulsol**

Emulsol Chemical Corp., Chicago, a subsidiary of Witco Chemical Co., New York, has been merged with Witco's organic chemicals division. A major purpose of the move, Witco says, is to widen distribution of Emulsol products through the use of the parent company's extensive sales force. A. O. Raven, formerly Emulsol sales manager, is now products manager of the Emulsol line.

The merger also is expected to result in a 50 per cent expansion of Emulsol research facilities through the consolidation of its laboratories with Witco's research and development laboratories.

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NPX . . . . .	60-65
NP-35 . . . . .	90-95
NP-40 . . . . .	100
TMN . . . . .	35-37
XD . . . . .	60-65
XH . . . . .	90-100

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## Soap-Detergency Sales Up in '58

**R**ECORD dollar sales of synthetic detergents and soaps in 1958 were reported last month by the Association of American Soap & Glycerine Producers, New York. Based on individual reports of 67 manufacturing members, the Soap Association's figures show at plant total dollar sales of detergents and soaps reached \$1,040,753,000 in 1958, up 4.3 per cent from the 1957 sales figure of \$998,115,000.

Tonnagewise, 1958 sales of detergents and soaps combined were just a fraction of a percent lower than in the previous year; 4,089,500,000 pounds being reported in 1958, as compared with 4,104,675,000 in 1957.

Last year synthetic detergents accounted for 72 per cent of the combined total tonnage sales of detergents and soaps, a gain from the 71 per cent reported for 1957. Syndet sales in 1958 amounted to 2,951,352,000 pounds, valued at \$715,951,000, for a gain of 1.2 per cent in tonnage and 4.7 per cent in dollar value over 1957.

Sales of liquid synthetic detergents continue to soar. They advanced 18.5 per cent in tonnage and 24.7 per cent in terms of dollar volume in '58 from the 1957 level. Tonnage sales of liquid synthetic detergents for the two years were: 430,744,000 pounds in 1958, and 363,408,000 pounds in 1957. The most spectacular increase in the liquid synthetic group was registered by hair shampoos, sales of which increased 74.6 per cent in tonnage and 50.5 percent in dollar volume over 1957. The big increase in the figures for shampoos may be explained in part by a change in the method of reporting and also by a shift in the respondents to this particular question.

Total 1958 soap sales dropped 4.4 per cent in tonnage and 3.3 per cent in dollar value from the 1957 totals. Last year 1,138,148,000 pounds of soaps of all types, valued at \$324,802,000 were reported sold by Soap Association members who participate in the

census, as compared with 1,188,909,000 pounds, worth \$314,525,000 in 1957. Almost half of all soap tonnage sold in 1958 was in the form of toilet bars. Toilet soap sales increased 6.4 per cent in tonnage and 13 per cent in dollar volume last year, as compared with 1957. Although toilet soap sales have been edging up continuously in the past, the gains reflected in the latest figures are due, in part at least, to the inclusion of bar form synthetic detergents and medicated soaps. The comparatively high price of these two types of toilet soaps has contributed to the marked increase in dollar volume.

Another apparent increase in the soap category is due to a change in the method of reporting figures. Figures given for 1958 sales of shave creams (17,316,000 pounds, valued at \$15,175,000) include all types: lather and brushless in tubes, soap in mugs, and

aerosol shave lathers. Since 1958 was the first year in which this method of reporting was used, obviously no comparative figures are available.

Granulated, powdered and sprayed soap figures now include sales of washing powders, which have been shrinking rapidly.

Scouring cleanser figures are included for the first time in the 1958 report. The figures released by the Soap Association show that 350,836,000 pounds of scouring powders, worth \$49,021,000, were sold in 1958.

Another change in the Soap Association figures is the establishment of a new line of demarcation between "bulk" and "packaged" sizes. "Bulk" unit sizes of dry products are now packages over 25 pounds and exceeding one gallon for liquid products. This new criterion is in keeping with the trend toward large size packages adopted in recent years, according to the Soap Association.

**Soap and Detergent Sales for 1958 and 1957**

	Thousands of pounds		Thousands of dollars	
	1958	1957	1958	1957
Soaps other than liquid				
Liquid soaps	1,110,332	1,157,757	319,263	308,214
	3,477*	3,894*	5,589	6,311
<b>Total</b>	<b>1,138,148</b>	<b>1,188,909</b>	<b>324,802</b>	<b>314,525</b>
Bar toilet soaps	566,077	532,071	198,812	175,942
Yellow & other than white laundry bars	46,459	44,666	5,240	5,195
White laundry bars	119,706	142,094	25,390	27,879
Soap chips and flakes, pkgd.	35,062	42,720	11,775	14,349
Soap chips and flakes, bulk	88,896	103,317	10,498	12,227
Soap, granulated, sprayed, bulk	80,309	91,704	9,478	10,903
Soap, granulated, sprayed, pkgd.	130,942	156,620	37,951	42,865
Hand pastes & powder, incl. waterless hand cleaners	9,775	11,731	1,435	1,699
Paste & jelly soaps (potash & other)	12,638	14,133	1,803	1,976
Shaving soap (stick, powder, cake)	2,326	3,040	1,542	2,141
Shaving cream (tube, jar, aerosol, soapless)	17,316	—	15,175	—
Soap shampoo, liquid, pkgd.	64*	79*	222	758
Liquid soap, other than pkgd. shan.poo	3,413*	3,815*	5,317	5,553
Miscellaneous or other soaps	826	1,183	164	229
Detergents, solid	2,520,608	2,552,286	554,843	554,372
Detergents, liquid	430,774	363,480	161,108	129,218
<b>Total</b>	<b>2,951,352</b>	<b>2,915,766</b>	<b>715,951</b>	<b>683,590</b>
Detergents, solid, other than shampoo, pkgd.	2,398,300	2,365,085	531,853	525,635
Detergents, solid, other than shampoo, bulk	131,075	172,080	16,964	19,806
Detergents, liquid, other than shampoo, pkgd.	46,086*	36,800*	137,369	111,515
Detergents, liquid, other than shampoo, bulk	6,156*	7,718*	7,474	6,893
Detergent shampoos, liquid	12,808	7,336	16,265	10,810
Detergent shampoos, solid	9,233	15,121	6,026	8,931

\*Expressed in gallons

### New Fine Organics Product

A new carbon remover and solvent tank degreaser was developed recently by Fine Organics, Inc., Lodi, N. J. Designated "F. O. 286," the product is said to be non-flammable and removes carbon, oxidized oil, tar, paint, stains, rubber, and petroleum residues from aircraft and automotive metals and metal parts. It is designed for cold tank use and is

claimed to break the adhesive bond between soil deposits and metals.

### Steig of Dolge on Poker

Irwin Steig, in charge of public relations and advertising for C. B. Dolge Co., Westport, Conn., is the author of a book, "Poker for Fun and Profit," which is being published this month by McDowell, Obolensky, Inc., New York.



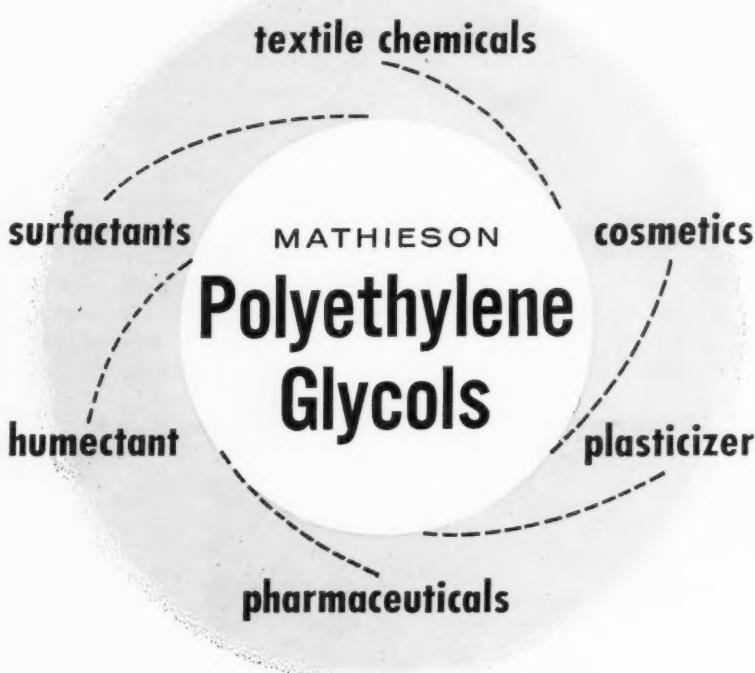
Irwin Steig

The book explores the psychology and mathematics of every form of the game and includes descriptions of some of the antics of the female poker player. Illustrated by Mr. Steig's brother, William, a well-known cartoonist and comic artist, the volume is designed to appeal to both players and non-players.

### Meuly Joins Rhodia

Appointment of Walter C. Meuly as director of research for Rhodia, Inc., New York, was announced last month by Raymond J. Picard, president. Previously with E. I. du Pont de Nemours & Co. in New Brunswick, N. J., for the past 35 years, Dr. Meuly served as production manager of the fine chemicals division's New Brunswick plant and later as research associate specializing in organic chemistry at DuPont's Jackson laboratory.

Walter C. Meuly



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EAST COAST: Messrs. Canerpa Ltd., Suite 223, Drummond Building, 1117 St. Catherine Street West, Montreal/Canada. CENTRAL: Messrs. Canerpa Ltd., Room 709, 137 Wellington St. West, Toronto/Canada. WEST COAST: The East Asiatic Co. (P. Q.) Ltd., Marine Building, Vancouver 1, B.C.



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**Product Application**—A Snell client in the paper industry, for whom we had developed a fine additive, wanted to explore uses in other fields. Unfortunately, their highly qualified staff's experience was limited to the one field. Snell, with experts in practically every product field, found the new product has potentialities as both a good emulsifier and a paint plasticizer. Only the very largest manufacturing companies can duplicate the breadth of experience and background the Snell "brain-trust" of technical experts can offer you!

**Product Improvement**—One Snell client found their product, an adhesive bandage, slipping in quality. Tape was going gooey in storage on druggists' shelves. Snell research helped this client bring his product quality up to equal the best on the market, and retain his share of sales.

**Product Evaluation**—A Snell brewery client wanted to expand production and take advantage of a more efficient production technique but feared the taste of the beer might suffer. Snell food technologists, taste panels, and engineers checked the new process and hundreds of samples of beer made under new and old systems, recommended the switch to the more profitable modern process. The change went unnoticed by the customers, and sales continued to climb.

**Market Research**—A Snell client with a waste product had briefly considered building a plant to use it to manufacture another product; but had given up after their own brief survey showed the new product to be already overproduced. When they consulted Snell for checking, however, Snell predicted there would be a shortage within three years. The client waited two years, built the plant—and now has a profitable new product instead of a waste!

**Toxicology**—One of the largest frozen food companies began getting complaints on the flavor of one of their green vegetables. Since hundreds of thousands of dollars were at stake, they consulted Snell to find out what was wrong. Snell by analyzing tests, and checking on the farm, was able to prove that the taste—actually toxic—was due to a new type of insecticide sprayed on the fields hundreds of yards away on a windy day long before the harvest!

**Engineering**—A large midwestern firm desired to produce its own brand of instant coffee, to possess outstanding flavor, body, and bouquet. They engaged Snell to handle all details, from design to engineering, to supervision of actual process startup. The fine qualities "built into" this resultant product made it such a success that Snell was commissioned to enlarge the plant, which has recently gone into production.

**What's Your Product Problem?**—Whatever it is, and whatever your product field—chemicals, chemical specialties, personal products, pulp and paper, protective coatings, plastics, textiles, foods, petroleum, rubber—Snell has men who "know the score" in that field, and who can work with you creatively and profitably in developing, producing, protecting, and marketing new ideas. This broad experience can be decisive in protecting not only your ideas, but also the thousands of dollars you spend developing them. And the cost of Snell service is less than you might imagine! Half the jobs we do cost less than \$1000!

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#### A. K. Dolge Marries

A. K. Dolge, vice-president of Goltra, Inc., Winston-Salem, N. C., sanitary supply firm, was married recently to Miss Mary Wharton of that city. Following a honeymoon in Jamaica, B. W. I., the couple returned to Winston-Salem where they will live.

Mr. Dolge is the son of Karl A. Dolge, president of C. B. Dolge Co., Westport, Conn. Goltra is a wholly owned subsidiary of the Westport firm.

The elder Mr. Dolge is one of the founders of the Chemical Specialties Manufacturers Association and his father, Carl Bruno Dolge, founded C. B. Dolge Co.

#### Babbitt Buys Car Shampoo

B. T. Babbitt, Inc., New York, announced last month the purchase of "Savoy Car Shampoo" from Seeman Brothers, Inc., also New York, as a further step in its enlargement and diversification program. A combination liquid cleaner-polish, "Savoy" is distributed and advertised nationally.

Marshall S. Lachner, Babbitt president said that the "product fits into our national distribution set-up through grocery outlets and it will make a sound contribution to our future sales."

#### Kurly Kate Contest

Kurly Kate Corp., Chicago metal sponge maker, is sponsoring a beauty contest to elect a "Miss Kurly Kate" who will serve as hostess at the company's exhibits at forthcoming trade shows of the National Restaurant Assn. and National Association of Retail Grocers of the United States. Pictures of the five candidates are available from all of the company's salesmen and a Kurly Kate rag doll will be sent to every person casting a ballot, according to Edward Matz, Sr., president.

The contest is part of a new promotion campaign by the company to expand the sale and market for its line of metal sponges and pot cleaners.

### **Mojonnier 'Pay-Later' Plan**

Mojonnier Associates, a division of Kartridge-Pak Machine Co., Franklin Park, Ill., revealed recently that it is now in a position to offer "attractive" deferred payment plans to its leading customers. Actually, Mojonnier, a producer of filling equipment for aerosols and other products, has already made it possible for certain companies to purchase equipment without large outlays of cash. The company will "welcome the opportunity to discuss any such plans", it announced recently. In addition, Mojonnier is studying the possibility of a program for leasing its equipment. Its parent company, Kartridge-Pak Machine Co. has had a leasing program for its packaging machinery for many years.

At the same time Mojonnier announced plans to expand its sales organization. As part of this effort, Thomas J. Casey has been appointed sales manager for aerosol equipment.

Another addition to the Mojonnier staff is Royal T. Ferry, who is eastern division sales manager. He was formerly technical director of VCA, Inc., Bridgeport, Conn., valve maker. Earlier he had been with Bridgeport Brass Co's aerosol operation. Mr. Ferry makes his headquarters in New York City.

As assistant sales manager, Thomas Rink, makes his headquarters in Franklin Park.

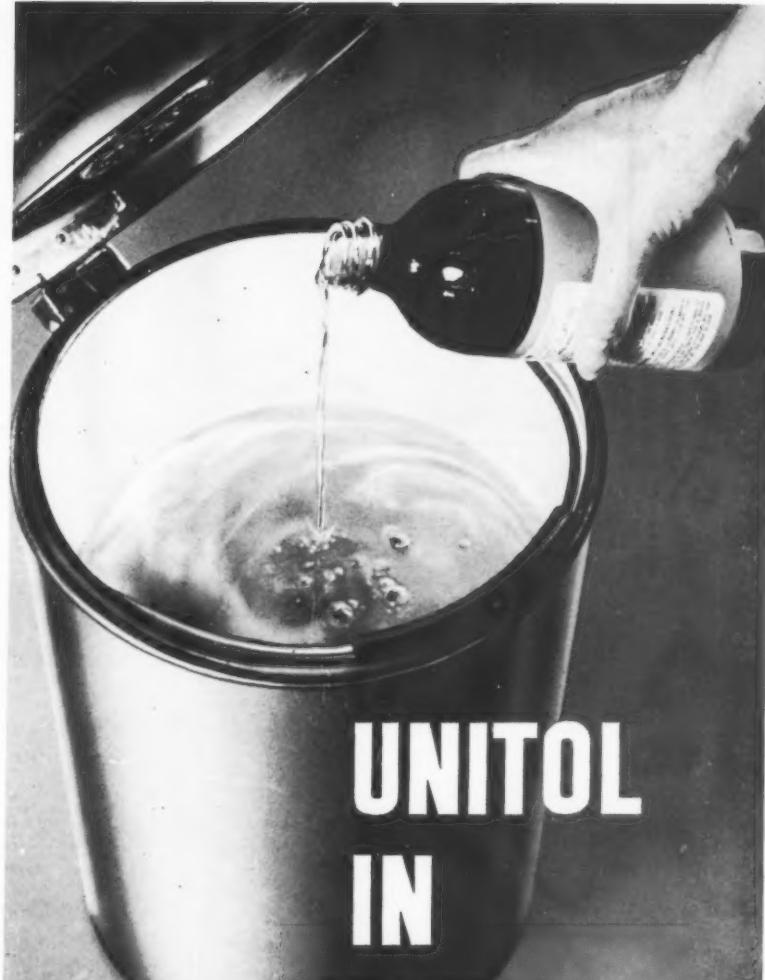
Jack Jecker was recently transferred to Mojonnier's New York office to handle technical service in the eastern area.

During the recent National Packaging Exposition in Chicago, Mojonnier had in operation two complete aerosol lines. One is its new rotary line, the other its standard straight line.



### **Hilton Joins Allied**

Harold Hilton recently joined the chemical sales department of National Aniline Division, Allied Chemical Corp., New York. Most recently he was manager of chemical sales for Ciba Co., New York.



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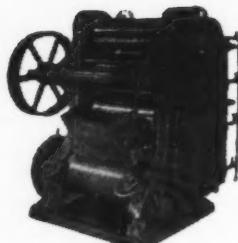
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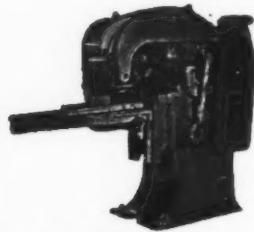
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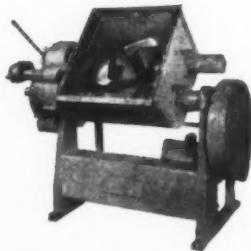
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(Continued on Page 173)



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**For Sale:** Used 12 line straight line modern SL 55 "Geyer" heavy duty piston filler for any semi-liquid or semi-solid product. Will handle cans or glass containers. Range of sizes 4 fluid oz. to 16 fluid oz. Speeds 180 to 220 containers per minute. With or without separate motor driven agitator. Reasonably priced. Address Box 263, c/o *Soap*.

**For Sale:** Plodders, 4'x9' chilling roll. 3 x 4 roll granite & steel roller mills. Granders. Chippers. Crutchers. Slabbers. Cutting tables. Kettles. Filter presses. Mixers. Sifters. Foot and power soap presses. Partial listing. We buy surplus equipment. Stein Equipment Co., 107 - 8th St., Brooklyn 15, N. Y.

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### Max Graceman Dies

Max Graceman, 74 founder and president of Grace-Lee Products, Inc., Minneapolis, died Feb. 10. Long active in the soap industry, Mr. Graceman founded the company in 1932 to produce a paste type cleanser called "G-L." Today the firm in addition to

manufacturing 103 products including soaps, detergents, cleansers, polishes, waxes, dishwashing compounds, degreasers, and solvents, and also has a mechanical division.

A native of Winnipeg, Manitoba, Canada, Mr. Graceman was active in community and civic projects in Minneapolis. His son, D. D. Graceman, serves the company as vice-president and sales manager.

### P&G Adds to Warehouse

Warehouse space for the Dallas, Tex., plant of Procter & Gamble Co., Cincinnati, will be more than doubled with the completion this fall of a new 187,000 square foot warehouse adjacent to the plant. J. T. McKinnon, plant manager, announced last month that construction would begin immediately on the aluminum siding building. Floor space in the warehouse will be used for storage of products made at the Dallas plant and for other P&G products not manufactured in that area. Both rail sidings and truck loading docks are features of the new building.

### Deane Hubbard Dies

Deane Ogden Hubbard, 53, a chemical engineer for Food Machinery and Chemical Corp., New York, died March 11 in Stamford (Conn.) Hospital. Prior to joining FMC, Mr. Hubbard had been associated with Hooker Chemical Corp., Niagara Falls, N. Y. His widow, two children and his parents survive.



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### **Boyle-Midway Elects V.P.**

Robert S. Wheeler has been elected vice-president of the Boyle-Midway division of American



Robert S. Wheeler

Home Products Corp., New York, it was announced in February by Strieder Schraffenberger, division president.

Most recently director of advertising, Mr. Wheeler joined the company in 1950 as national sales

promotion manager. Boyle-Midway manufactures and distributes more than 125 household, personal, and gardening products including "Aerowax," "Aero Shave," "Black Flag" insecticides, and "Wizard" home deodorizers.



### **Vincent Halaska Dies**

Vincent J. Halaska, 78, founder and retired president of Acme Chemical Co., Milwaukee, died March 9. He had been hospitalized since Feb. 28 when he was injured in a fall at his home in Wauwatosa, Wis.

Mr. Halaska founded Acme in 1916 and was its first president. He founded the Acme Realty Co. in 1944 and was its president until 1958 and was also president of Fondview Realty Co.

Mr. Halaska is survived by a son, John, who is president of Acme Chemical; a daughter, Mrs. William Nellen; a brother, Edward; and a sister, Sister Mary Hermana, S. S. N. D.

### **Considine Joins Felton**

William J. Considine recently joined Felton Chemical Co., Brooklyn, N. Y., as research direc-



William J. Considine

tor and head of the analytical department. Formerly engaged in organic research with the Sloan Kettering Institute for Cancer Research and Squibb Institute, Dr. Considine also has held teaching positions at Yale and Columbia universities.

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## COMING MEETINGS

American Oil Chemists Society, 50th anniversary spring meeting, Roosevelt Hotel, New Orleans, April 20-22.

American Society of Perfumers, 5th annual symposium, Essex House, New York, April 20.

Canadian Manufacturers of Chemical Specialties, second annual meeting, Royal York Hotel, Toronto, Nov. 2-4.

Chemical Specialties Manufacturers Association, 45th mid-year meeting, Drake Hotel, Chicago, May 18-20; 46th annual meeting, Mayflower Hotel, Washington, D. C., Dec. 7-9.

Industrial & Building Sanitation - Maintenance Show and Conference, N. Y. Trade Show Building and New Yorker Hotel, New York, Sept. 22-24.

National Agricultural Chemicals Association, 26th annual meeting, French Lick - Sheraton Hotel, French Lick, Ind., Oct. 21-23.

Manufacturing Chemists' Association, 87th annual meeting, The Greenbrier, White Sulphur Springs, W. Va., June 11-13.

National Association of Variety Stores, 9th northwestern merchandise show, Leamington Hotel, Minneapolis, July 12-14; 19th southwestern show, Baker Hotel, Dallas, July 19-21; 18th southeastern show, Biltmore Hotel, Atlanta, July 26-28; 71st Chicago show, La Salle Hotel, Chicago, Aug. 2-5.

National Hotel Exposition, 44th annual show, Coliseum, New York, Nov. 2-6.

National Pest Control Association, annual convention, Biloxi, Miss., Oct. 19-22.

National Sanitary Supply Assn. 37th annual convention, Fontainebleau Hotel, Miami, Fla., May 22-25, 1960.

Society of Cosmetic Chemists, spring meeting, Commodore Hotel, New York, May 7; New York Chapter, monthly meetings, New Yorker Hotel, Sept. 9, Oct. 7, Nov. 4.

Synthetic Organic Chemical Manufacturers Association annual outing, Cavalier Hotel, Virginia Beach, May 11-13.

Toilet Goods Association, 24th annual convention, Waldorf-Astoria Hotel, New York, May 12-14.

Western Packaging & Materials Handling Exposition, Civic Auditorium, San Francisco, Aug. 11, 12 & 13.

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Oakland: Foremost Food & Chemical Co.

Oklahoma City: Rullman Brothers

St. Louis: Harry A. Baumstark & Company

## Eale Endo

**A**L Candy, head of Candy & Co., Chicago, after spending a couple of weeks in Florida recently mostly fishing and avoiding the cares and tribulations of the wax business, agreed that he preferred life in the sunny southland. In fact, he inquired of us scribe about the cost of a small advertisement in this rag. What kind of an advertisement, we asked. Al replied that all he wanted was a small two-bit ad reading "Wax factory for sale,—cheap!"

\* \* \* \*

**Mary Selma Beach**, wife of Charley Beach of Stalfort of Baltimore, was appointed chairman of the ladies golf committee at the recent meeting of CSMA Board at Clearwater, Florida. Now, it so happens that Mary Selma doesn't know a brassie from a divot. Golf is not one of her accomplishments. So she very deftly suggested that Ruth Brenn, wife of Earl Brenn of the Huntington, Ind., Brenns, take over and the day was saved.

\* \* \* \*

Karl Dolge, president of the C. B. Dolge Co., of Westport, Conn., and a founding member of the CSMA, celebrated his 80th birthday on March 24 at his estate at Winter Haven, Florida. He received many telegrams of congratulation. They tell us that very shortly he is due back on the job at his desk in Westport.

\* \* \* \*

**Even money can be washed clean with soap.** Recently in a public washroom in Washington, D. C., a lady soaped, scrubbed and rinsed five one-dollar bills, then dried them carefully under the hot-air hand drier and walked out, much to the amusement of a couple of other dames who watched the performance.

\* \* \* \*

The newest idea in lady's hair grooming is to have her locks tinted to match her dog. Helena Rubenstein introduced their product, "Color Lift" recently in a sort of dog show where the models appeared with coiffures "rinsed" to match the furry coats of their well-groomed canines. (Note that they use the term, "rinse,"—never dyed.) One pup was a poodle of apricot hue. The color of the "rinse" is said to last through five shampoos.

\* \* \* \*

**Spring cleaning** was the subject of a recent poll conducted by the Bon Ami Institute among a group of men. They indicated that spring cleaning is a necessary evil, but unanimously agreed that they prefer to be somewhere else when it's happening. A majority held that they felt sure they could systemize the whole operation to make it practically invisible and painless, but none dared a try. Those polled were in agreement that the only way to avoid involvement was to be AWOL preferably out of town.

*A strip teaser by the name of Cashmere Bouquet recently completed an engagement at the Chez Paree, a night spot in Denver, Colo. They say she is a beautiful brunette who also sings a song about the famous Colgate soap. In her number on the big burlesque stages,—but not at an intimate night spot like the Chez,—they tell us she sings about the soap, strips and takes a shower behind "an almost transparent curtain," still singing. Then she hands out samples of Cashmere Bouquet. Must be quite an act.*

\* \* \* \*

*Union Carbide's new building being completed at 47th Street and Madison Ave. in N.Y.C. is being used for subliminal advertising purposes. The "sidewalk superintendents'" peep holes are in the shape of the company's trade mark.*

\* \* \* \*

**Novel way of busting out of the clink** was demonstrated by a bloke out west who squirted the contents of a can of pressurized shave lather into the eyes of the local sheriff. Just one more reason, we suppose, why sales of electric shavers are booming.

\* \* \* \*

**New "Kinsey Report" in the offing!** And this one has to do with the sex life of house flies. Rumor has it that John Rodda, chairman of the Insecticide Division of CSMA and general manager of the Fairfield Chemical Division of Food Machinery, is in the

Five tycoons from the sanitary supply industry take time out for a quick milk toast during Feb. 16 custodial clinic of E. Ojserkis & Sons, Inc., Atlantic City, N. J. The "drinkers," left to right, are: Martin Peters, Moore Brothers Co., New York; Shim D. Lehrman, A. J. Lehrman & Sons, Harrisburg, Pa.; Larry Barber, manufacturer's representative, Wilmington, Del.; Douglas Bard, Geerpres Wringer, Inc., Muskegon, Mich.; and Milton Greenberg, United Metal Cabinet Corp., Pottstown, Pa.



throes of compiling a detailed study of the sex habits of the common fly in conjunction with the scientific committee of his division. The facts, when compiled, if fit for publication, will be published, goes the rumor.

\* \* \* \*

Carl Durant of Aerocide Dispensers, Ltd., Toronto, was so surprised to read in *Soap & Chemical Specialties* last month that he and Mrs. Durant were the parents of four children that he telephoned us from Florida to report he was cutting short his vacation to get right back home to baby sit. Upon being reassured by us that we erred in the article on his aerosol loading operation in the March issue by making him the papa of four children, he resumed a peaceful vacation in Miami Beach.

\* \* \* \*

**Hold on to your hat.** — if you can still afford one. — gentle readers! We beg leave to bring news of the contest to end all contests. Helene Curtis, Chicago, on behalf of its "Enden" shampoo, will provide free maid service, plus the use of a new 1959 Cadillac for one year, to the lucky devil who, in the opinion of the judges, does the best job in completing the contest's statement: "I'd really enjoy first prize in Enden's 'Live It Up for a Year' contest because . . ." In what is unquestionably the understatement of the year, the Curtis people point out that winning this contest "is going to make a year in the home life of one American family a lot more luxurious." And, "Focus on luxury was decided upon because it was felt that it would have the strongest possible appeal in the light of today's high prices and the subsequent budget-living of so many American families."

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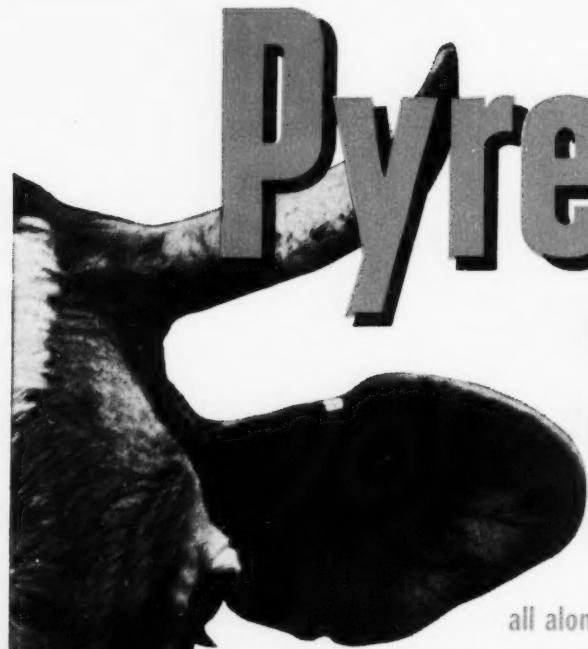
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